PROBLEMS OF TEACHING BOOKKEEPING

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PROBLEMS OF TEACHING BOOKKEEPING

A Classroom Manual of Practical Helps for Teachers of this Subject in Public and Private Secondary Schools, and in Teacher-Training Institutions

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New York
PRENTICE-HALL, INC.
1933

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First printing.....April, 1930
Second printing.....August, 1933

PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

The controlling purpose of this book is to give present and prospective teachers of bookkeeping and accounting practical guidance in the preparation and development of a sound educational program for their subject of instruction. The book will prove useful, also, to those administrators, supervisors, principals, and department heads who are responsible for providing leadership in constructing and in putting into operation a course of study for this subject.

Most teachers of bookkeeping and accounting recognize that mastery of teaching material is not enough, although it is fundamental. Teachers should likewise make a careful study of the nature and needs of their students. There would be no teaching problems if there were no students. It is in them, rather than in the subject, that teaching problems have their origin.

Besides the factors of teaching-material and of students, teachers should always consider the educational value of bookkeeping and accounting with reference to the educational values of the other subjects of the curriculum which the students pursue. The

American school system seeks to give its students a well-rounded education with which to meet the varied demands of life. It is important that bookkeeping and accounting teachers fully understand and appreciate what their contribution to the general education of their students should be, and how this contribution can be most helpfully and effectively made. To guide teachers in the realization of this result is the aim of this book.

PAUL S. LOMAX
PETER L. AGNEW

March 4, 1930

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PROBLEMS OF TEACHING BOOKKEEPING

Chapter I

PRESENT STATUS OF BOOKKEEPING IN THE SECONDARY SCHOOLS

Size of the bookkeeping enrollment.—Bookkeeping remains one of the principal commercial subjects in the public and private secondary schools of the United States. Of 3,144,645 pupils enrolled in 16,941 public and private high schools in 1928, 328,205 pupils, or 10.4 per cent, were registered in the subject of bookkeeping. This compares with 12.4 per cent, or 289,005 pupils out of a total enrollment of 2,335,623 in 15,598 public and private high schools, who were studying bookkeeping in 1922.[1]

In the public high schools in 1928 the proportion of bookkeeping pupils was 10.7 per cent, or 309,148 pupils out of 2,896,630;

[1] U. S. Bureau of Education, Mimeographed one page circular 35,871, "High School Enrollments by Subject, for 1922 and 1928." Washington, D. C.: September 26, 1929.

whereas, in the private high schools in 1928, the proportion was 7.7 per cent, or 19,057 pupils out of 248,015.[2]

If the same proportion of 10.4 per cent prevailed among the 4,132,125 pupils[3] who were enrolled in the total number of 21,700 public and private high schools of the United States in 1926,[4] as prevailed among the 16,941 public and private high schools in 1928, then we can account for 429,741 pupils in bookkeeping. To this number should be added the number of bookkeeping pupils in the private business schools, which, in 1925, in 739 schools, was 73,386.[5] This number added to 429,741 makes a total of 503,127 pupils in public and private high schools and in private business schools. In addition to this total, there are several thousand pupils studying bookkeeping in day and evening continuation schools, in vocational high schools, and in correspondence schools; con-

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[2] U. S. Bureau of Education data contained in letter from Chief Clerk to the authors, dated October 21, 1929.

[3] U. S. Bureau of Education, Report of the U. S. Commissioner of Education to the Secretary of the Interior for the fiscal year ended June 30, 1928.

[4] The Department of Superintendence Seventh Yearbook, "The Articulation of the Units of American Education," p. 210. Washington, D. C.: National Education Association, 1929.

[5] U. S. Bureau of Education Bulletin, 1926, No. 14, "Statistics of Private Commercial and Business Schools, 1924–1925," p. 3. Washington, D. C.: Government Printing Office.

sequently, the grand total of bookkeeping pupils in secondary schools is most likely running well above 550,000.

Trend in the bookkeeping enrollment.—Does the trend in the bookkeeping enrollment indicate that there is an increase or a decrease in the present enrollment as compared with that of the past? For the country as a whole there is a decrease of exactly 2 per cent in the bookkeeping enrollment of public and private high schools between 1922 and 1928. In 1922 there were 289,005 bookkeeping pupils out of 2,335,623 pupils, or 12.4 per cent; whereas, in 1928, there were 328,205 bookkeeping pupils out of 3,144,645 pupils, or 10.4 per cent.[6]

In the state of New Jersey, in the school year 1927–1928, 16.2 per cent of the total public high school registration (grades IX, X, XI, and XII) were enrolled in bookkeeping. This compares with 15.5 per cent in 1923–1924, 19.3 per cent in 1919–1920, and 19.9 per cent in 1915–1916.[7] Here again there has been a decrease in the percentage of enrollment between 1919–1920 and 1927–1928.

In the state of New York the proportion of the total number of public high school pupils that were registered in the subject of

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[6] Refer to footnote 1.

[7] Data compiled by Louis A. Rice, Assistant in Secondary Education, New Jersey State Department of Public Instruction, Trenton, N. J.

bookkeeping was 16.2 per cent in 1926 as compared with 15.85 per cent in 1919.[8] Here we have a slight increase in New York and a significant decrease in New Jersey in approximately the same period of time.

While junior or elementary business training is displacing bookkeeping to a considerable extent in the ninth grade, another major cause is undoubtedly the growing complexity of bookkeeping practice in keeping with the complexity of modern business life. This has resulted in more intricate bookkeeping, which, in turn, has called for more matured and better qualified students. Still a third probable major cause is the fact that much recording routine is being increasingly taken care of by numerous specialized clerks who need very little, if any, knowledge of technical bookkeeping. Nevertheless, even though a trend of decrease in bookkeeping enrollment for the nation as a whole is one to engage the thoughtful attention of teachers and particularly of curriculum makers in business education, the fact remains that more than one-half million boys and girls are enrolled in this subject. Therefore, a book that specifically deals with problems of teaching bookkeeping represents a timely

[8] "Report on Secondary Education in the State of New York for the School Year Ending July 31, 1927," p. 86. Albany, N. Y.: The State Education Department, 1928.

contribution in the interest of this great army of pupils.

Grade distribution of the bookkeeping enrollment.—In the state of New Jersey, of the 18,081 bookkeeping pupils enrolled in the public high schools in 1927–1928, the following is the grade distribution as compared with that of 9,965 bookkeeping pupils in 1915–1916:[9]

Grade	1915–1916	1927–1928
IX	52%	32%
X	34	48
XI	9	16
XII	5	4
	100%	100%

Unfortunately, we have no data of the comparative situation in other states and in the nation as a whole. As for New Jersey, it is interesting to notice that the peak of enrollment has shifted from grade IX in 1915–1916 to grade X in 1927–1928. This trend seems to be in line with the need of more mature and better qualified students to study a subject that is tending to become more complicated in accordance with a more complex business practice situation.

Sex distribution of the bookkeeping enrollment.—Again referring to the state of New Jersey, we find that the bookkeeping enroll-

[9] Refer to footnote 7.

ment is divided as follows between boys and girls:[10]

School Year	*Bookkeeping Enrollment*	*Per Cent Boys*	*Per Cent Girls*
1927–1928	18,081	38.1	61.9
1923–1924	13,429	36.8	63.2
1919–1920	10,716	35.6	64.4
1915–1916	9,965	47.3	52.7

The proportionate number of boys and girls in the public high schools of the United States in 1926 was 47.2 per cent and 52.8 per cent respectively.[11] It is evident, therefore, that, at least so far as the state of New Jersey is concerned, the proportionate number of boys in bookkeeping is considerably less than the proportionate number of boys in the national public high school enrollment. The proportionate per cents of boys and girls enrolled in bookkeeping in New Jersey in 1919–1920, namely, 35.6 per cent and 64.4 per cent, respectively, are also interesting to compare with the proportionate per cents of men and women engaged as bookkeepers and cashiers in 1920, namely, 43.9 per cent and 56.1 per cent, respectively. However, this comparison, while it may be of general interest, should not in itself be regarded too seriously, since there are numerous kinds of

[10] Refer to footnote 7.

[11] U. S. Bureau of Education Bulletin, 1927, No. 33, "Statistics of Public High Schools, 1925–1926," p. 11. Washington, D. C.: Government Printing Office.

recording clerkships that involve certain portions of bookkeeping subject matter, and these clerkships are not all classified in the United States 1920 census occupational statistics as "bookkeepers and cashiers." Furthermore, even within the classification of "bookkeepers and cashiers," we find that the proportionate increase of the number of men and women engaged in this capacity from 1910 to 1920 was, for men, 2.5 per cent increase, and, for women, 88.3 per cent increase.[12] Hence it appears that the New Jersey bookkeeping enrollment trend as to sex, between the school year 1915–1916 and the school year 1919–1920, is in line with the occupational trend so far as "bookkeepers and cashiers" are concerned. It is therefore apparent that bookkeeping teachers should give the sex distribution trend of the enrollment in their subject thoughtful consideration in connection with many problems of selecting, organizing, and presenting their teaching material.

Length of time required and place of bookkeeping in the public high school commercial curriculum.—As for the length of time that bookkeeping is required in the commercial curriculum of four year public high schools, Lyon found that 49.5 per cent of 121 schools

[12] Coyle, Grace L., "Present Trends in the Clerical Occupations," p. 14. New York: The Woman's Press, 600 Lexington Avenue, 1928.

that he studied required two years of the subject, 14 per cent three years, and 11.5 per cent one year.[13] Counts in his investigation of the senior high school curriculum of 15 representative cities of this country discovered that bookkeeping "is ordinarily found in the second or third year, although in a number of instances it is confined to the fourth year."[14] He also found that of the total recitation time devoted to commercial subjects, 22.9 per cent was assigned to bookkeeping.[15]

Number of teachers of bookkeeping.—In the school year 1926 there were 3,065,009 pupils enrolled in 17,710 public high schools. For these pupils there were required 163,555 teachers.[16] On the same basis of 19 pupils to a teacher, we account for 28,947 teachers that would be needed to teach 550,000 bookkeeping pupils, provided all these pupils took the subject in the same period of instruction. This, of course, assumes that each teacher of bookkeeping has only one class in that subject. However, it is probably a better assumption to consider that each teacher

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[13] Lyon, Leverett S., "Education for Business," p. 397. Chicago, Ill.: The University of Chicago Press, 1922.

[14] Counts, George S., "The Senior High School Curriculum," p. 95 (Supplementary Educational Monograph No. 29, 1926). Chicago, Ill.: School of Education, The University of Chicago.

[15] *Ibid.* p. 94.

[16] Refer to footnote 11.

of bookkeeping has on an average two classes. Consequently, on this basis, we account for one half of 28,947, or 14,474 teachers of bookkeeping in our American secondary schools. Of the 163,555 public high school teachers in 1926, 35.8 per cent were men and 64.2 per cent were women. Assuming the same proportion among the estimated number of 14,474 bookkeeping teachers, 5,182 of these are men and 9,292 are women.

Summary of present status of bookkeeping. —From our discussion, it is apparent that the subject of bookkeeping with a national enrollment of more than 500,000 pupils is one of the principal commercial subjects in our public and private secondary schools; that the trend in the bookkeeping enrollment indicates that there is a decrease of exactly 2 per cent for the nation as a whole between the year 1922 and the year 1928; that the grade distribution of the bookkeeping enrollment shows that, at least for the state of New Jersey, there is a shift of peak enrollment from the ninth grade to the tenth grade from the year 1915–1916 to the year 1927–1928; that the sex distribution of the bookkeeping enrollment shows that, at least for the state of New Jersey, there is a significant decrease in the proportionate number of boys and a corresponding increase in the proportionate number of girls from the year 1915–

1916 to the year 1927–1928; that the length of time required for bookkeeping in the commercial curriculum of four year public high schools ordinarily is two years; and that the estimated number of teachers of bookkeeping in the public and private high schools of the United States is 14,474.

To these 14,474 teachers, and to others who are concerned with problems of teaching more than one-half million American boys and girls enrolled in the subject of bookkeeping, the remaining chapters of this book are devoted.

Chapter II

AIMS OF BOOKKEEPING TEACHING

It has been said that education, as a social process, is nothing more than an economical method of assisting an initially ill adapted individual, during the short period of a single life, to cope with the ever increasing complexities of the world.[1] In order that education may function in this fashion, we, at the outset, should have certain definite major objectives. These have been set forth as being (1) health, (2) command of fundamental processes, (3) worthy home membership, (4) vocation, (5) citizenship, (6) worthy use of leisure, and (7) ethical character.[2]

Even though objectives have been outlined and named, it does not follow that there is, or should be, any sharply defined lines between the separate fields. Subjects,

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[1] Chapman and Counts, "Principles of Education," p. 11. (Notice: In case a footnote reference is also included in the references at the end of the chapter, the name of the publisher is given only at the end of the chapter. Otherwise, the name of the publisher is given in the footnote.)

[2] U. S. Bureau of Education Bulletin, 1918, No. 35. "Cardinal Principles of Secondary Education," p. 9.

however—some subjects more than others—while embracing all educational objectives to some extent, will, and may well, tend toward an emphasis of one or more of these objectives. This seems logically permissible so long as the total parallel school experience of the student gives proper emphasis to all the major educational objectives.

Bookkeeping is primarily vocational. Students study bookkeeping because they hope, through such study, to become vocationally efficient to such a degree that they may hold positions in business offices. They may be employed in positions where only the general knowledge and broad view of business, which they have gained through the study of bookkeeping, will be put to use; or they may work as special clerks, such as ledger clerks, billing clerks, bookkeeping machine operators, etc., where some of their more technical bookkeeping learning will be drawn on; or they may work as general bookkeepers, where both their general and specific learning will be utilized. The basic or primary objective of the bookkeeping course should be that of training students to be able to function efficiently in the above mentioned or comparable office jobs.

In addition to the vocational objective, however, we should be mindful of the other major objectives, especially (2) command of fundamental processes, and (7) ethical

character. Every office worker should have command of fundamental processes; that is, he should have a knowledge of arithmetic, reading, oral and written expression, spelling and writing; he should have the habit of accurately applying these knowledges at all times; he should have the ideal of maintaining a high standard in connection with the application of these processes; and he should have the power of applying these knowledges, habits, and ideals to the solution of his problems.

Likewise every office worker should possess the right kind of ethical character; that is, he should have a knowledge of such qualities as coöperation, honesty, industry, courage, etc.; he should have the habit of applying these traits to everyday life; he should have the ideal of desiring to possess all these admirable character traits; and he should have the power to apply these knowledges, habits, and ideals to his daily problems, both in and outside the school, both on and off the job.

Finally, we must not overlook the other four major objectives of education: (1) health, (3) worthy home membership, (5) citizenship, and (6) worthy use of leisure. While the bookkeeping teacher should hold mainly to the vocational objective, he should take advantage of every opportunity to develop in his students knowledges, habits,

ideals, and powers that will help them to enjoy good health, to be worthy members of their homes, to be good citizens, and to make worthy use of their leisure time.

After having decided upon the major objectives of education, and their relationship to the study of bookkeeping, our next step is to set up specific aims of which we should be mindful in endeavoring to reach our objectives. In setting up these aims, we should think of them in terms of doing situations and classify them in terms of educational elements of human conduct or behavior. These elements are (1) knowledges, (2) habits, (3) ideals, and (4) powers. By knowledges we mean the sum total of acquired information or ascertained facts. By habit we mean "the tendency to acquire fixed ways of reacting to particular situations."[3] By ideals we mean an individual or group characteristic which is an "object of desire." "Only when one sets a trait apart and makes it an object which he desires to possess does it become for him an ideal."[4] By power we mean the ability to do; the ability to control the circumstances of life; the ability to conform to and transform the social environment; the ability to apply knowledges, habits,

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[3] Benson, Lough, Skinner, and West, "Psychology for Teachers," p. 65.

[4] Charters, W. W., "The Teaching of Ideals," p. 34.

and ideals to the effective solution of problems.

To illustrate: we have said that our primary objective in the teaching of bookkeeping is vocational. To express this objective in terms of doing situations, we might mention it as being "activities that insure occupational efficiency." Those activities should be classified under (1) knowledges, (2) habits, (3) ideals, and (4) powers. Under knowledges we should list such items as, "The student should be able to understand clearly the terms 'assets,' 'liabilities,' 'capital,' 'income,' and 'cost' "; "He should become familiar with the rules for journalizing." Under habits we should classify such items as, "The student should be able to exercise the habit of planning entries in terms of the rules for journalizing," and so on. Under ideals we should put such items as, "The student should be able to hold to the ideal of accuracy." Under powers we should name such items as, "The student should have the power or the ability to bring together the necessary knowledges, habits, and ideals into a working situation of recording entries in the journal."

In the following outline of aims it will be noted that the general divisions are indicated by Roman numerals, that the major objectives are indicated by capital letters, and that the specific aims are indicated by arabic

figures. It will further be noted that the knowledges, habits, ideals, and powers that are related all bear the same letter and figure. For example, I–A–1 states the aim: "The student should have a knowledge of the relation of bookkeeping and accounting to business management, and of how to analyze and construct balance sheets and profit and loss statements and other records and reports." II–A–1 states the related habit aim: "The student will be able to exercise the habit of recognizing the relation of bookkeeping to business management, and so forth"; while III–A–1 states the related ideal aim: "The student should be able to hold to the ideal of intelligently recognizing the relation of bookkeeping, etc."; and IV–A–1 states the related power: "The student should have the power to apply his knowledges, habits, and ideals to the solution of problems involving the recognition of the relationship of bookkeeping, etc."

Statement of Aims.

I. Knowledge aims.[5]

A. Activities that primarily insure occupational efficiency and that, to a lesser degree, tend toward the attainment of other major objectives.

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[5] Adapted to some extent from the Los Angeles High School Commercial Syllabus. Board of Education, Los Angeles, California, 1925.

1. The student should have a knowledge of the relation of bookkeeping and accounting to business management, and of how to analyze and construct balance sheets and profit and loss statements and other records and reports also.
2. He should have a knowledge of how systematically to keep business papers and how to record facts in proper order. He should know the value of the systematic arrangement of facts and the value of neatness and accuracy in recording these facts.
3. He should have a knowledge of how to analyze and interpret business papers, how to determine the proper form to be used for specific transactions, and how properly to prepare the more common business papers.
4. He should have a knowledge of the various elements necessary to the proper and efficient carrying on of the bookkeeping work for business organized under the sole proprietorship, partnership, or corporate form of organization. He should be able to carry on this bookkeeping work, whether the firm is a trading concern (wholesale, retail, or commission) or a manufacturing establishment. To do this he should:
   a. Clearly understand assets, liabilities, capital, income, and expense.
   b. Learn to journalize.

c. Become familiar with and learn to use a cash journal, both the simple and the more complex forms.
d. Become familiar with and learn to use several different forms of sales journals.
e. Become familiar with and learn to use several different forms of purchases journals, purchases and expense journals, and voucher register.
f. Learn the name, the purpose, and the classification of each account used in a single proprietorship, partnership, and corporation.
g. Learn to post and to take a trial balance from the general ledger.
h. Learn to handle controlling accounts and, of course, subsidiary ledgers.
i. Learn to prove cash.
j. Learn to reconcile the bank account.
k. Learn to construct and to analyze profit and loss statements and supporting schedules, particularly the schedule showing the cost of goods manufactured.
l. Learn to construct and to analyze a balance sheet.
m. Learn to make adjusting entries.
n. Learn to construct a working sheet.
o. Learn how to make closing entries.
p. Learn how to make and to analyze comparative statements.
q. Learn how to figure depreciation.

r. Learn the importance of "turnover."
s. Learn about the different kinds of corporation stock.
t. Learn how to analyze business transactions before recording them.
u. Learn all other principles and details necessary for him correctly and efficiently to keep a set of books.

B. Activities that tend to promote a better command of fundamental processes and through this to insure occupational efficiency and also the proper attainment of other major objectives.
1. The student should have a knowledge of arithmetic, reading, oral and written expression, spelling, and writing.
2. He should have a knowledge of the various applications of these elements to bookkeeping situations.

C. Activities that tend to develop ethical character and through this to insure occupational efficiency and also the proper attainment of other major objectives.
1. The student should have a knowledge of the value of such qualities as honesty, sincerity, courtesy, tact, fair-mindedness, dependability, self-reliance, personal effort, sense of responsibility, alertness and self-control.

D. Activities that tend to develop good health, worthy home membership, good citizenship, and worthy use of leisure, and through these to insure occupational effi-

ciency and also the attainment of other major objectives.

1. The student should have a knowledge, in so far as it is possible for the teacher to develop that knowledge in connection with the bookkeeping course, of the things that make for good health, worthy home membership, good citizenship, and worthy use of leisure time.

II. Habit aims.

A. Habit activities that primarily insure occupational efficiency and that, to a lesser degree, tend toward the attainment of other major objectives.

1. The student will be able to exercise the habit of recognizing the relation of bookkeeping to business management, of analyzing and constructing balance sheets and profit and loss statements, and other records and reports.
2. He will be able to exercise the habit of being systematic.
3. He will be able to exercise the habit of properly analyzing, interpreting, selecting, and preparing the most common business forms.
4. He will be able to exercise the habit of performing the various elements necessary to the proper and efficient carrying on of the bookkeeping work for business organized under a sole proprietorship, partnership, or corporate form of organization. He should be able to exercise these habits whether the firm is a trading concern (whole-

sale, retail, or commission) or a manufacturing establishment. This will involve the exercise of the habit of performing the specific skills mentioned in Section IV under knowledges.

B. Habit activities that tend to promote a better command of fundamental processes and through this to insure occupational efficiency and also the proper attainment of other major objectives.
   1. The student will be able to exercise the habit of accurately applying his knowledge of arithmetic, reading, oral and written expression, spelling, and writing.

C. Habit activities that tend to develop ethical character and through this to insure occupational efficiency and also the proper attainment of other major objectives.
   1. The student will be able to exercise the habit of applying the qualities mentioned in Section I–C–1 to his every-day activities.

D. Habit activities that tend to develop good health, worthy home membership, good citizenship, and worthy use of leisure, and through these to insure occupational efficiency and also the attainment of other major objectives.
   1. The student will be able to exercise the habit of applying the knowledges acquired (see Section I–D–1) whenever engaged in a situation where they apply.

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III. Ideal aims.

A. Ideal activities that primarily insure occupational efficiency and that, to a lesser degree, tend toward the attainment of other major objectives.

1. The student should be able to hold to the ideal of intelligently recognizing the relation of bookkeeping to business management, and of accurately analyzing and constructing balance sheets and profit and loss statements and other records and reports.
2. He should be able to hold to the ideal of correctly analyzing, interpreting, selecting, and preparing the most common business papers.
3. He should be able to hold to the ideal of neatly, accurately, and systematically keeping business papers and recording business facts.
4. He should be able to hold to the ideal of performing efficiently and in a businesslike manner the specific skills and knowledges mentioned in Section I–A–4.

B. Ideal activities that tend to promote a better command of fundamental processes and through this to insure occupational efficiency and also the proper attainment of other major objectives.

1. The student should be able to hold to the ideal of a high standard in connection with the use of arithmetic, reading, oral and written expression, spelling, and writing ability.

C. Ideal activities that tend to develop ethical character and through this to insure occupational efficiency and also the proper attainment of other major objectives.

1. The student should be able to hold to the ideal of honesty, sincerity, courtesy, tact, fair-mindedness, dependability, self-reliance, personal effort, sense of responsibility, alertness, and self-control.

D. Ideal activities that tend to develop good health, worthy home membership, good citizenship, and worthy use of leisure and through these to insure occupational efficiency and also the attainment of other major objectives.

1. The student should have as one of his ideals the desire to possess good health, to be a worthy member of his home, to be a good citizen, and to make worthy use of his leisure time.

IV. Power aims.

A. Powers that primarily insure occupational efficiency and that, to a lesser degree, tend toward the attainment of other major objectives.

1. The student should have the power to apply his knowledges, habits, and ideals to the solution of problems involving the recognition of the relationship of bookkeeping and accounting to business management or involving the analysis and construction of balance sheets and profit and loss statements and other records and reports.

2. He should have the power to apply his knowledges, habits, and ideals to the solution of problems involving neat, accurate, and systematic arrangement and the recording of data.
3. He should have the power to apply his knowledges, habits, and ideals to the solution of problems involving the analysis, interpretation, selection, and preparation of the most common business forms.
4. He should have the power to apply his knowledges, habits, and ideals to the solution of problems involving the specific activities mentioned in Section I–A–4.

B. Powers that tend to promote a better command of fundamental processes and through this to insure occupational efficiency and also the proper attainment of other major objectives.
   1. The student should have the power to apply his knowledges, habits, and ideals of the fundamental processes to the solution of his problems.

C. Powers that tend to develop ethical character and through this to insure occupational efficiency and also the proper attainment of other major objectives.
   1. The student should have the power to apply his knowledges, habits, and ideals of honesty, sincerity, courtesy, tact, fair-mindedness, dependability, self-reliance, personal effort, sense of

responsibility, alertness, and self-control to the solution of his problems.

D. Powers that tend to develop good health, worthy home membership, good citizenship, and worthy use of leisure and through these to insure occupational efficiency and also the attainment of other major objectives.

1. The student should have the power to apply his knowledges, habits, and ideals pertaining to health, worthy home membership, good citizenship, and the worthy use of leisure to the solution of his problems.

Problems.

1. In some schools bookkeeping is taught largely for its general business values; in other schools it is taught for the purpose of training students to fill specific bookkeeping jobs, such as those of ledger clerk, bookkeeping machine operator, et cetera. Many schools try to do both. Lay out a statement of aims for each of these three schools, indicating which aims would be considered most important in each situation.

2. In a lesson plan, the teacher should definitely state the general and specific aims of the lesson. Lay out lesson plans for five bookkeeping lessons, listing the general and specific aims of each. (See Lesson Plan Outline, p. 253.)

3. In setting up aims of teaching bookkeeping "we should think of them in terms of doing situations and classify them in terms of educational elements of human conduct or behavior." (See

p. 14.) Apply this principle to the following statements of aims:

Statement No. 1. New Jersey State Course of Study in Bookkeeping (first year only).[5]

Statement No. 2. New York State Course of Study in Bookkeeping.[6]

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3. Dewey, John, "Democracy in Education," Chapter VIII. The Macmillan Co., 1926.
4. Douglass, Aubrey A., "Secondary Education," Chapter XII. Boston: Houghton Mifflin Co., 1927.
5. Lomax, Paul S., "Commercial Teaching Problems," Chapter III. New York: Prentice-Hall, Inc., 1928.
6. "Los Angeles High School Commercial Syllabus." Board of Education, Los Angeles, California, 1925.
7. "New Jersey State Course of Study in Bookkeeping." State Department of Public Instruction, Trenton, N. J., 1928.
8. "New York State Syllabus in Commercial Subjects." State Department of Education, Albany, New York, 1928.

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[5] State Department of Public Instruction, Trenton, N. J., 1928.

[6] State Department of Education, Albany, N. Y., 1928.

9. "St. Louis Bulletin on General Statement of Aims" and "Bulletin on Accounting." Board of Education, St. Louis, Missouri, 1925.
10. United States Bureau of Education, Bulletin, 1918, No. 35, "Cardinal Principles of Secondary Education." Washington, D. C.: Superintendent of Documents, Government Printing Office.

Chapter III

FUNCTIONS OF BOOKKEEPING TEACHING

The functions of bookkeeping may be described as the primary uses of the knowledges, habits, and ideals developed by the student during the course of his study of this work. To follow largely the analysis of the late Professor Inglis, these functions may be considered as (1) adaptive, (2) unifying, (3) differentiating, (4) selective, (5) directive, (6) participating, and (7) preparatory.[1]

The adaptive function.—The adaptive function is reflected in the ability of the student to adjust his school learning to life situations both while he is still in school and after he has left school. It may be said that the true test of how well we have attained the aims and objectives of any course is shown in the extent to which the student is able to adapt the various elements learned to his diverse needs.

During his school days the student may

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[1] Inglis, Alexander, "Principles of Secondary Education," pp. 375–384.

adapt his knowledge of bookkeeping to keeping account of his own expenditures; possibly to assisting with such items as accounts, bills, and bank accounts at home; or to the accounting for ticket sales, class dues, and school paper subscriptions in school. He may further be able to adapt his general knowledge of business, gained through the study of bookkeeping, to an after school job.

After the student has left school his ability to adapt his bookkeeping and general business knowledge gained through the study of bookkeeping may, and often will, be the means of his earning a living.

Because it is important that the student be able to make this adaptation, we, in teaching our subject, should constantly see to it that we not only teach the various elements of our bookkeeping course (outline suggested in Chapter IV), but that we give the student the opportunity to apply this learning to practical problems. Such problems should offer an application of our theories to several different life situations—situations that might reasonably come within the experience of the child.

This diversity of application should make it much easier for the student later to adapt the bookkeeping elements that may be involved to his own life problems. In other words, the adaptive function in bookkeeping includes the establishment of certain fixed

habits of reacting, certain fixed standards and ideals, and a definite capacity adequately to adapt bookkeeping learning to various problems of life.

The unifying function.—This function is reflected in the ability of the student to put together, in correct relationship, elements drawn from various subjects of study, as well as from his life experiences, and to adapt them to problem solving.

For example, in making out a sales invoice, or in calculating trade or cash discount on the invoice, the student must draw on his knowledge of arithmetic; in making explanations for entries he must apply his knowledge of English; in connection with shipments of goods he should unify his knowledge of commercial geography; and in matters peculiar to partners and corporations he should unify his knowledge of bookkeeping with that of commercial law.

The unifying function is important to the bookkeeping teacher, because it is the function that involves the problem of correlation. He cannot assume, simply because he is teaching bookkeeping, that his work should take into consideration only the theories involved in the learning of that subject. In order that the students be best able to adapt these theories of bookkeeping to their problems, they must understand the application of these theories in their proper setting.

This involves the application of knowledge drawn from other subjects of which the teacher must constantly be mindful, since the student does not always make the connection himself. This merging of knowledges drawn from many and varied subjects does not take place automatically, but only when the teacher teaches with that purpose in view. It is one of the outstanding responsibilities of the teacher of bookkeeping to teach his subject in such a fashion that he brings out the useful relationships between bookkeeping and all related subjects in the curriculum. When the student is out on the job the artificial barriers among subjects of study will disappear; his ability to unify the principles learned in these separate school subjects will reflect, to a high degree, the value of his school learning.

The differentiating function.—"The integrating [or unifying] function must at all times be conceived as correlated with the differentiating function and the relation between the two functions must be considered as supplemental rather than conflicting."[2]

The differentiating function involves the ability to distinguish among the many elements learned in the bookkeeping course. It is essential that the student know the dif-

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[2] Inglis, Alexander, "Principles of Secondary Education," p. 378.

ference, for example, between the balance sheet and the profit and loss statement, between assets and liabilities, and between books of original entry and ledgers. He must not only be able to recognize the distinguishing features of all these bookkeeping elements, but he must also be able to recognize the distinguishing features of the diverse situations in which these bookkeeping elements may be used; that is, if he is asked to ascertain the amount of profit the business has made, he should know which statement to prepare; if he is asked to find out what the total of sales for the month is, he should know where to look for such information.

The student's ability to observe the distinguishing features of the various phases of bookkeeping learning and his ability to recognize the manner in which some phases differ from other phases will, to a large degree, reflect the value of his school learning.

The selective function.—The selective function may have to do with many things: the selection of teachers, the selection of aims, the selection of teaching materials, or the selection of pupils. It may also involve selection by the pupils of various phases of bookkeeping learning. In our discussion we propose to deal with (1) the selection by the pupil of various phases of bookkeeping

learning, and (2) the selection of pupils who study bookkeeping.

The selective function, when it refers to the selection of elements learned by the pupil, involves the ability to select from the many things learned those things that are necessary to the solution of the problem at hand. For example, when the student has a profit and loss statement to prepare, he has to be able to select the proper accounts from the trial balance. At the same time, he observes the differentiating and the unifying functions, in that he differentiates between profit and loss accounts and balance sheet accounts, and then, after selecting the accounts that he needs, he unifies them by putting them together in their proper relationship in the form of a profit and loss statement. In building his statement, he must be further capable of determining which accounts are "trading," which are "operating cost," which are "other income," and which are "other expense." Here, again, he differentiates between "trading" accounts and the other profit and loss accounts; he selects those needed for his trading section, and finally unifies them by putting them together in the form of the trading section of his profit and loss statement.

Another application of this function is the selection that must be made when the student puts his school learning to work on the job.

He is not usually expected to operate the whole set of books, but frequently takes care of just one section of the accounting records, acting as billing clerk, ledger clerk, cashier, or in some comparable capacity. Here, once more, he must differentiate between elements that are pertinent and those that are irrelevant; he must select those that are pertinent; and, finally, he must unify those pertinent elements by putting them together in their proper relationships.

The selective function as applied to the selection of pupils involves some other considerations. The factor of selection in this respect is inevitable, since we must deal with individuals who differ widely in mental traits. It involves the consideration of (1) selection by elimination, and (2) selection through proper guidance.

Students leave school for many reasons: their families need additional income; they would like to have more spending money; they have no interest in school; or they dislike the teacher. Too frequently these "reasons" are merely the excuses offered, the real reason being that they have failed in their work. This failure may be due to lack of application, frequent absence, poor background, mental inability, laziness, physical defects, poor teaching, lack of understanding between the pupil and the teacher, or some other reason. While failure is unquestion-

ably one of the prime causes for elimination, it usually has a decidedly bad psychological effect upon the one who has failed. While it is probable that we cannot entirely eliminate failure, we should endeavor to reduce it to a minimum.

The other phase of our problem is the consideration of selection through proper guidance. The student who has a good chance to succeed in our work should be permitted to take it; the student who does not seem to possess the qualities that usually make for success in bookkeeping should be guided into some type of work in which he is more likely to succeed. Every effort should be made to find out what type of work the student is best fitted to do; this may be done through the use of try-out and prevocational courses, through various kinds of tests, and through an intelligent interpretation of the school record of the student. After the guidance officer is reasonably certain that he knows the situation, he should endeavor to guide the student along the best route. If the student does get started in the bookkeeping course, he should be encouraged to go on with it only if he shows aptitude; if, after completing a year's work, he seems to show aptitude, he should be advised to go on. If, on the other hand, he seems to show little ability, he should be guided into some type of work for which he is better fitted. The crossover

from one line of work to another should be kept open so that such cases can be easily handled with due regard to the feelings and the interests of the student.

The directive function.—The directive function is intimately related to the guidance aspect of the selective function; it involves having the student ultimately do the thing that he is most interested in doing and that he can do best. This necessitates providing, in the bookkeeping course, a wide range of experiences so that, ultimately, the student may choose that phase of our work in which he is most interested and which he can do best. Only through this provision can we hope to have the student in a situation in which he will be most happy.

This may be done by offering in our bookkeeping course a wide variety of different phases of bookkeeping work, such as bookkeeping for corporations and manufacturing concerns, various kinds of books of original entry and ledgers, a good treatment of financial statements, and special training for various bookkeeping clerkships. The absolute necessity for recognizing this function is one of the strongest reasons for introducing billing and bookkeeping machines into our work.[3]

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[3] See Chapter X of this book for suggestions pertaining to machines to be used in conjunction with bookkeeping teaching.

These offer an opportunity for directing the interest and effort of the student into a line that has been hardly touched upon by the schools, despite the fact that machine bookkeeping is constantly increasing in business.

In order that our work be most effective, we should offer training that will enable the student to hold office jobs that are classified as bookkeeping clerkships. Some of these are bookkeeping machine operator, ledger clerk, statistical clerk, cost clerk, billing clerk, cashier, and pay roll clerk. The student should be given some opportunity to try out and explore the work of some of these jobs and should be given intelligent direction in connection with this try-out and exploration.

The participating function.—The ability of a student fully to appreciate and understand what he is studying through participating in real life situations, so far as possible, is a sixth function or use of his school learning which basically conditions the value of that school learning. In the teaching of bookkeeping, we should endeavor to place all phases of the subject in their proper business settings and then, wherever possible, in a setting that is actually within the experience of the child.

For example, we use the balance sheet approach in an endeavor to place bookkeeping, from the very start, in a proper business set-

ting. To some, this approach seems difficult for ninth or tenth year students, particularly if thought of in terms of a somewhat involved financial statement. However, if we begin our lesson by asking the students to name some of the things that they own, they will immediately respond by telling of possessing radios, bicycles, clothing, and cash. In this manner, the meaning of the term "asset" may easily be established. Through the same elements we may establish the meaning of the term "ownership" or "proprietorship" or "capital."

A few more questions will bring out the facts that one or two of the students owe something on their radio or bicycle, and through this we may establish the meaning of the term "liabilities." Now we have the whole proprietorship equation established. The students knew about all these things, but they had never thought of them in just these terms.

By this time we have shelved the shuddering thought of introducing the balance sheet—it is already introduced; simple, to be sure, but still a balance sheet. Having laid our foundation in a setting that is well within the experience of the child, we may now proceed, by easy stages, to develop the balance sheet involving such items as cash, merchandise, customers' accounts, creditors' accounts, and capital.

In all our work we must be certain that the principles taught are put to work in laboratory exercises, to the end that the student may learn the principle in its field of use. In so doing, a proper balance must be maintained between formal recitation work and laboratory practice.

The preparatory function.—The preparatory function involves the ability of the student to use his present education as a basis for further education in college or elsewhere.

In connection with our teaching we should endeavor to establish in the student a real urge for advancement. The student should be acquainted with the opportunities that are open to the expert or to the well trained individual. He should also know of the opportunities for receiving advanced training in collegiate schools of business, in public or private evening schools, and in other types of educational institutions.

We do not mean to convey the impression that we consider bookkeeping a college preparatory subject, or that we feel that the commercial curriculum should aim chiefly to prepare students for college. We simply mean to point out that there are many young people in almost every school who would benefit by taking extension work after they have left school. We must consider here both those who drop out and those who stay to

graduate. Teachers should be sure that these students are acquainted with the pertinent facts.

We might cite, for example, the case of two boys who left school at the end of the tenth year after having studied bookkeeping for one year. Largely through the counsel of the bookkeeping teacher, who always tried to inculcate this desire for advancement, the boys attended evening high school to finish their bookkeeping course. Upon completing it, they then decided to make a further study of accounting, with the result that they entered the evening division of a near-by school of commerce. While they have not yet finished their course, one of them has already received an encouraging promotion as a result of this evening study, while the other, who was fortunate in having a fairly good position, feels that he now does far better work than he used to do.

We have in mind another case involving four boys who took the regular commercial curriculum in a high school and whose ability in bookkeeping was noted by their senior year teacher in that subject. That teacher made it a point to discuss future possibilities with the class as a whole and with these four boys in particular, pointing out to them the value of some further training. None of these boys had had any intention of going to college until their senior year in high school,

but conditions made it possible for them to do so. Partially because of the teacher's advice, the four of them entered a collegiate school of business in the fall; two of them attending the day division and the other two the evening division. In the course of time, one of the evening boys dropped out because of family difficulties, while the other three finished up and received their degrees. Today one of these boys is a certified public accountant, two of them (including the drop-out who only partially finished his course) are holding responsible positions in business organizations, while the fourth is in the field of commercial education.

Problems.

1. Give an illustration of how you would observe the adaptive function in teaching bookkeeping.

2. Give an illustration of how you would observe each of the other functions in teaching bookkeeping.

3. Studies that have been made indicate that a large number of office jobs are of a specialized character. Which of the functions should be considered in this situation, and in what manner?

4. Every commercial department should feel responsible for the placement of its students. In this connection which function should be kept in mind?

5. A large proportion of the lower ability students are admitted to the classes in bookkeeping,

which usually is a required subject in the commercial curriculum. Upon the basis of which of the functions should the bookkeeping teacher deal with these students, and why?

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Chapter IV

PROBLEMS OF BOOKKEEPING SUBJECT MATTER

The subject matter of a course in bookkeeping should be so selected and organized that it will be teachable from a pedagogical standpoint and at the same time will conform to the everyday practices of the business world. If we are to train students to take places in the business offices of the community, we should so teach them that, by the time they are left to their own ingenuity, they will have received a thoroughly comprehensive training in the power to use the knowledges, habits, and ideals needed by the office worker.

The selection of subject matter material is usually the responsibility of the director of commercial education or the head of the commercial department. One of the greatest dangers is that the individual in charge of the supervision of the teaching of bookkeeping will assume too much responsibility for the selection of subject matter. Teachers usually will accomplish most when they have

confidence in the course of study and in the instructional material they are using, such as textbooks, supplementary exercises, and library material. It is usually desirable for the person in charge to work out a definite procedure to be followed in the selection of instructional material. The following plan is suggested:

Preliminary discussion.—The most advisable thing to do first in connection with this problem seems to be to hold informal discussions with the bookkeeping teachers and others who may have reason to be interested. These discussions may be with individual teachers or with groups of teachers and usually will result in getting the teachers to think about the matter and to be in a position to discuss it more intelligently. This does not mean that the one in charge should necessarily simply decide that a new course of study is needed and therefore proceed to start propaganda with the view of adopting one. Frequently the original suggestion will come from some of the teachers who are particularly interested in improving their work and feel that a new course of study is necessary.

Committee for study of problem.—The second step in the plan should be to organize the teachers of bookkeeping into a committee for the purpose of planning a new course of study. This committee may be made up of

all the bookkeeping teachers, or, in larger systems, of a representative group. The members of this committee may be elected by the teachers or selected by the individual in charge. The important thing is that the committee must, as nearly as possible, truly represent all the teachers of the subject to the end that all the teachers will be willing to accept the final decision of the committee.

Work of the committee.—The first thing for the committee to do, once organized, is to lay out a definite plan of procedure. If they are to select and organize subject matter that will be of greatest value, they must dig rather deeply into the problem. They should probably proceed as follows:

1. Prepare a statement of aims.
2. Select and organize subject matter into a course of study.
3. Select a textbook that will best fulfill the needs of the course.
4. Select supplementary and library material.

Statement of aims.—No course of study can be intelligently prepared unless those preparing it have in mind a clearly defined set of aims. In as much as the bookkeeping course is but one course in a whole system of education, it is necessary that the committee ascertain at the outset what are the major objectives of the whole system. Its next step is to decide with which of these objectives

the subject is primarily concerned and also the manner in which the other objectives should be considered. The third step for the committee to take, after deciding upon the relationship of the subject to the major objectives, is to plan a complete set of specific aims that should be followed to attain the objectives or the final goals. As Chapter II of this book deals with this problem, it seems hardly necessary to discuss it further here.

Selection of subject matter.—After having selected the aims, the next step of the committee is to select a body of subject matter that will best fit those aims; that is, the committee must decide what is to be taught in the bookkeeping course. There are three rather generally used ways of selecting subject matter:

1. Method of collective opinion.
2. Survey method.
3. Activity analysis method.

Method of collective opinion.—When they use this method, the members of the committee simply discuss the relative values of diverse elements that may be taught in the course and ultimately set up an outline of subject matter. These "diverse elements" may be things that the teachers thought were valuable and perhaps have used during their teaching experience; things that the teachers may have used on the job at some time when they were actually employed in business

offices; things that former students may have told them of needing to know when they have worked in business offices; things that the teachers have learned in visiting other schools; things that they have heard about at conventions; or things that they have read about in magazines or other publications.

When the outline is complete, it is usually submitted to some expert who is expected to offer advice about improving it.

Survey method.—When the committee uses this method, it usually brings together all the information that it can acquire pertaining to what is being done in other places. It consults all available state and city courses of study and, through a process of comparison, endeavors to select and organize an outline of subject matter that it thinks will cover the needs of the situation.

Activity analysis method.—When this method is used by the committee it should go out and ascertain just what is being done on the job. Properly to train bookkeepers, we should know what bookkeepers do on the job. The only way that we can know is to check up on the duties of bookkeepers and to ascertain, if possible, which of these duties may best be learned in school and which on the job.

A good course of study for bookkeeping, at least in part, should be based on an activity analysis. To date, the lack of time and

money available for the purpose has prevented the making of any really exhaustive study designed to ascertain with just what knowledges a bookkeeper should be equipped when he starts work in a business office. However, Benjamin E. Strumpf, of New York City, has made an attempt to study this problem, and, while the scope of his study is of necessity limited, he does bring out some very interesting information.[1]

One of the outstanding points brought out by this important, although somewhat limited, investigation is the fact that a great number of business organizations in the United States are manufacturing establishments and over one half of these businesses are organized as corporations rather than as single proprietorships or partnerships. Yet the course of study followed by a large number of cities and towns offering work in bookkeeping calls for little or no discussion of books and accounts peculiar to the manufacturing business. It is also true that a comparatively short time is devoted to the study of accounts peculiar to the corporation. Such books of record as vouchers register, cash book as the only book of original entry, separate cash books (one for receipts and one for payments), and sales

[1] Strumpf, Benjamin E., "Bookkeeping Duties and the Commercial Curriculum."

returns and purchases returns journals are frequently not mentioned in courses of study designed to prepare students to be efficient bookkeepers; yet these particular books of record are known to be used in a great many offices where we expect our students to work after graduation.

Perhaps the next most important point brought out by this study is the question of what may best be learned in school and what on the job. A considerable amount of time is often spent in many classrooms discussing various minor details, as the needless repetition of certain business forms. The fact is that many such elements, which we discuss at length in the classroom, could easily be learned on the job after a short explanation. In building a course of study, then, we should sift out these unnecessary elements and include only those that are most important.

In planning an ideal outline of subject matter, it is probable that the collective opinion method, the survey method, and the activity analysis method should all be used, to the end that the final course of study will have injected into it certain elements which will have resulted from each of the three procedures.

On more question that is certain to come to mind at this juncture is, How much of the subject matter that we feel called upon

to teach should be included in the bookkeeping course and how much should be turned over to some other course, particularly the course in elementary business training?[2] This course should include the study of some of the business forms alluded to above and other elements which might well precede the study of bookkeeping. There are undoubtedly a number of advantages in this arrangement, one of which is that it leaves the time allotted to bookkeeping free for the discussion and development of strictly bookkeeping knowledges, habits, ideals, and powers. With the student's mind left free to learn bookkeeping, we can then teach him most of the things that he ought to know in order to be capable of reaching a really high efficiency standard when he goes out. It is not intended that forms and vouchers should be omitted entirely from the bookkeeping course. Unquestionably some should be included in order to give the bookkeeping work its proper setting, but the amount used should be reduced to an absolute minimum.

Enriched course of study.—In laying out the bookkeeping course, the committee should be mindful of the fact that it should permit

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[2] For a more detailed discussion of the aims, subject matter, and other problems pertaining to elementary business training, the reader is referred to "Problems of Teaching Elementary Business Training," by Lomax and Haynes. New York: Prentice-Hall, Inc., 1929.

a certain amount of latitude. Where the class or group method of instruction is used, there are distinct values to be derived from keeping the class together instead of permitting each one to work by himself and thus pull away from one another as they are certain to do when the individual progression plan is followed. The course of study outline should indicate certain minimum essentials that should be covered by all pupils. It should also indicate a certain amount of broadening material that may be used to enrich the course of the student who is particularly capable.[3]

Selection of text.—Unquestionably the work of selecting textbooks has caused considerable difficulty in the past. This difficulty has been due largely to the fact that no clearly defined procedure has been followed.

Too frequently books (and other instructional material) have been adopted because the director or the head of the department liked a particular publication and proceeded to take it upon himself to have it adopted. There are other cases where the business manager has made the final decision, usually because a certain book was cheaper than others. High school principals or influential

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[3] For a more complete discussion of the problem of class versus individual instruction the reader is referred to Chapter XI, "Problems of Classroom Management," p. 221.

teachers at times have been known to bring about the adoption of a book because, for one reason or another, such an adoption suited them. It has even been whispered that book adoptions can at times be traced to the charming personality of the book salesman, or even to the fact that he has been particularly generous in matters of luncheons, dinners, ball games, and theater tickets.

Obviously, the above mentioned haphazard and even questionable methods of selecting texts do not promote the type of education that the professionally minded hope to have in operation in our school systems. No textbook should be adopted until after a set of aims has been carefully formulated and a course of study built that will best fit those aims.

An important duty of the committee, then, is to get copies of all texts that might reasonably be considered and, by very careful study, to decide which one of these texts best covers the work that the committee has decided should be covered.

This does not mean a mere quantitative analysis of the general make up and content of each book, but involves a careful consideration of the quality of each book with due regard to the subject matter, the presentation of that subject matter, its probable teachableness, illustrations, mechanical fea-

tures, supplementary materials, authors, and other miscellaneous elements.[4]

After considering all the available textbooks, the committee may be able to agree on the adoption of one particular book. It is possible, even probable, that the members may feel that there are two or three books that might fulfill the requirements. In either case, the book or books chosen by the committee should be actually tried out before being definitely adopted. Enough books for one class of each text selected should be purchased and a capable teacher chosen by the committee to teach each class that will try out these books.

Each teacher of these tentatively chosen texts should be expected to make very definite reports about the progress of this class and of how well the text seems to fill the need that it is expected to fill. New type tests may also be used to test the progress of each class, so that such information may be ascertained in an objective manner. The test results and the reports should be carefully considered and compared. This trial should extend over a period of at least a year.

On the basis of these reports and test results the book that seems to be the greatest

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[4] Fowlkes, John Guy, "Evaluating School Textbooks." New York: Silver Burdett & Co., 1923.

aid in reaching the objectives of the course should be adopted. As a general rule, only one book should be used in any given community; and, if the final adoption is the result of a careful study of the situation such as outlined in this chapter, that one book will doubtless be the best for the community. Occasionally, in large cities, where some sections differ rather radically from other sections, it may be necessary to adopt different textbooks to fill different needs. In no case does there seem to be any real reason for adopting a list of textbooks, any one of which may be used, because of the individual tastes of the teacher.

Other things being equal, the textbook should be adopted for a reasonable period of time (four or five years). It is not good policy to be changing textbooks too often, and, if carefully selected, an early change should not be necessary. Of course, some peculiar situation may arise where it may seem advisable to reconsider the whole question before the allotted four or five years are up.

Supplementary and library material.—After the text has been adopted, it may be, and usually is, advisable for the committee to select suitable supplementary exercises and library material. Published exercises are available for this purpose; or some of the teachers in the system may have prepared suitable material; or the committee may take

it upon itself to construct suitable material. Generally speaking, the amount of supplementary material used should be left to the discretion of the individual teacher, the committee's duty being to pass on the acceptability of such material. A considerable amount should be available from which the teacher may choose. The committee should also endeavor to become acquainted with all publications that relate to the field in question and should make recommendations in which it lists the books, pamphlets, magazines, etc., that should be in the library. It should also offer suggestions to the teachers for the use of this library material.

The director, the head of department, the supervisor, or other individual who is held responsible for the proper formulation of the course of study and for the adoption of teaching materials should, of course, work with this committee. He may act as its chairman or he may simply be an ex officio member. In either case, he should not endeavor to boss the committee, but should assist the members as far as possible in reaching their ultimate conclusions.

In the discussion, we have mentioned the committee as if it acted as a unit at all times. At times it will act as a unit, but at other times it may, and probably will, divide itself up into two or more subcommittees for the consideration of particular phases of the problem.

Explanation of course of study.—On the following pages we present an outline of a course of study designed to include the general bookkeeping work that may be covered in the ordinary secondary school. In the absence of a satisfactory activities analysis covering the needs of the bookkeeper, we have called into use all three methods for selecting subject matter material (see p. 58); we have drawn on our own business and teaching experience, on the courses of study used in several cities and states throughout the country, and on Dr. Strumpf's somewhat limited job analysis.

In schools where three years are devoted to the study of general bookkeeping, this course can be fully covered; but in schools where only two years are devoted to the study, it would probably have to be trimmed down. It seems advisable, however, that the whole field, from very simple proprietorships through manufacturing organizations, should be covered, whether two or three years are devoted to the study.

Last year of bookkeeping in high schools.—The most acceptable procedure in many of our high schools seems to be to devote the tenth and the eleventh years to the study of general bookkeeping and the twelfth year to some other course designed to be superimposed upon, or rather to follow, the two years of bookkeeping. This course varies in different schools. There are three rather dis-

tinct plans. One is to offer a course in elementary accounting somewhat comparable to the elementary accounting courses offered to freshmen in collegiate schools of business. There seems to be comparatively little justification for such a course being given in the high school. A second plan is to give a course in business organization and management into which has been injected a sufficient amount of bookkeeping to keep alive the student's knowledge of the subject, so that he will have command of it when he graduates. This seems to be a rather good plan, and is especially good for comparatively small schools where wide differentiation is impossible. The third plan is to devote this year to training students to become special clerks, with special emphasis on machine operation, especially the operation of bookkeeping machines. This scheme will probably be adopted by more and more schools as time goes on, as it is generally admitted at the present time that most students who take bookkeeping positions at all take highly specialized clerkships and not general bookkeeping. Probably the best plan is to offer both the business organization and management course mentioned in the second plan and the special type of training mentioned in the third plan. The two together give the student a very excellent training, particularly if some form of coöperative scheme is in operation in the twelfth year.

COURSE OF STUDY FOR BOOKKEEPING I.[5]

I. Fundamental considerations.
   A. Reasons for keeping books.
      1. Need for determining proprietorship (net worth).
      2. Need for determining changes in proprietorship (net profit or net loss).

II. The approach (balance sheet method).
   A. Firmly establish proper concepts of fundamental elements.
      1. Assets (define, show their necessity in business and bring out examples: cash, merchandise, customers, equipment, supplies, notes receivable).
      2. Liabilities (define, show why and how they are incurred and bring out examples: creditors and notes payable).
      3. Proprietorship (define).
      4. Bookkeeping equation.
         Assets = Proprietorship.

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[5] The first part of this outline follows rather closely, but not in every detail, the syllabus for first year bookkeeping recently published by the New Jersey State Department of Public Instruction.

Because of the fact that the balance sheet method of approach is growing in popularity among bookkeeping teachers, this outline of content has been built from that point of view. However, the content of the course would be the same regardless of approach; the adaptation of the following outline to any approach may easily be made. A discussion of the various methods of approach is offered in Chapter IX of this book.

Assets — Liabilities = Proprietorship.

Assets = Liabilities + Proprietorship.

(The different terms of the equation should be developed by means of simple transactions.)

B. Develop the balance sheet.
   1. What it represents.
   2. How headed (whose, what, and when).
   3. Set-up. (Report form should be developed at this time; the balance sheet or account form may be taken up at a later time.)

C. Develop the profit and loss statement.
   1. Necessity of profit and loss statement (to determine how profit was made).
   2. Develop that point that the profit will be derived from the sale of goods at a price higher than was paid for them.
   3. Develop the method of finding the cost of goods sold and the profit.
   4. Develop the fact that this profit is not net profit but only gross profit, and that operating costs must be deducted in order to ascertain the net profit.
   5. Develop the relationship between the profit and loss statement and the balance sheet.
   6. Teach the student the proper heading (whose, what, when, and period covered).

D. Develop the accounts.
   1. The need for accounts (to keep a complete record of each asset, liability, and item of proprietorship).
   2. The form of account.
   3. The book of accounts (the ledger).
   4. The accounts.
      a. Asset accounts.
         (1) Cash.
         (2) Customers.
         (3) Notes receivable.
         (4) Merchandise inventory.
         (5) Equipment.
         (6) Supplies.
         (7) Real estate.
      b. Liability accounts.
         (1) Creditors.
         (2) Notes payable.
      c. Proprietorship accounts.
         (1) Permanent.
            (a) Capital.
            (b) Personal (drawing).
         (2) Temporary.
            (a) Cost.
               aa. Purchases.
               bb. Selling Expense.
               cc. General Expense.
            (b) Income.
               aa. Sales.
   5. Functions of accounts. In connection with the teaching of each account the functions of that account should be developed, which should include a discussion of:

a. The kind of item to be entered therein.
b. With what debited.
c. With what credited.
d. On which side is the balance?
e. To which class does it belong (asset, liability, capital)?

6. Rules for debiting and crediting.
   a. Debit.
      (1) To increase assets.
      (2) To decrease liabilities.
      (3) To decrease proprietorship (includes increase of cost).
   b. Credit.
      (1) To decrease assets.
      (2) To increase liabilities.
      (3) To increase proprietorship (includes increase of income).

E. The development of the trial balance.
   1. Trial balance of totals at this time made from accounts into which transactions have been entered direct. Made to show that the ledger is in balance.

F. The development of the journal.
   1. The general journal.
      a. Developed as indicator.
      b. Sets things forth in concrete form.
      c. Avoids errors that are likely to be made if items are carried directly to the ledger.
      d. Gives a temporary and analytical record of the transactions in the order of their occurrence with

complete information for reference.

e. Develop the form of entry (date, debit, credit, and explanation).

2. Posting to the ledger.
   a. The process of transferring debit and credit items from the books of original entry to the appropriate accounts in the ledger.
   b. Develop the facts that the date, the journal page, and the amount must be transferred to the ledger, and that the ledger page must be carried back to the journal.
3. The trial balance.
   a. Trial balance of totals.
   b. Trial balance of balances.
   c. Methods of locating errors (sufficient at this stage).
      (1) Checking addition and subtraction.
      (2) Check posting.
4. Financial statements.
   a. Working sheet (with three pairs of columns: one pair for the trial balance; one pair for the profit and loss statement; and one pair for the balance sheet).
   b. Profit and loss statement (affords review of form previously taught. Items should be taken from proper section of working sheet).
   c. Balance sheet (also affords review of form previously taught. Items

should be taken from proper section of working sheet).

5. Closing the ledger.
6. Post closing trial balance.

N.B. A short set (without business practice vouchers) may be worked out at this time, including the use of the journal, posting to the ledger, taking and checking a trial balance, making a working sheet, profit and loss statement, balance sheet, set of closing entries, and proof trial balance. It should be needless to suggest that many short exercises should have been worked out during the discussion of the several principles and that this set, and all other sets, should serve merely to unify all these elements by putting them together in their proper relationship. Of course it also affords a review of them as well.

III. Introduction of special journals.

A. Purchases journal.
B. Sales journal.
C. Cash receipts journal.
D. Cash payments journal.
E. General journal (its place as a book of original entry when special journals are used).

IV. Negotiable instruments.

A. Promissory notes (reviewed).
B. Drafts (with special emphasis on the present day use of the two party draft and trade acceptance).
C. Introduction of interest (accompanied by the necessary accounts, interest income, and interest expense).

N.B. A second short set might now be worked out (without vouchers) involving the use of special journals. This set should, of course, include the use of the special journals, posting to the ledger, taking a trial balance, making a working sheet, profit and loss statement, balance sheet, closing entries, and post closing trial balance.

V. Introduction of special columns in cash book.

- A. Discount on sales and discount on purchases.
- B. Special column in cash receipts for discount on sales.
- C. Special column in cash payments for discount on purchases.

VI. Further development of profit and loss statement.

- A. Trading section (involving sales returns, purchases returns, and freight in).
- B. Operating cost section.
- C. Other income section.
- D. Other cost (or expense) section.

N.B. A third short set may now be advisable. This set should involve the use of a few of the well-known business forms, such as salesmen's orders, sales slips, purchases invoices, sales invoices, receipts, checks, check book, and bank pass book. These forms should be carefully reviewed; but, in as much as most of them should have been used in a preceding course, only a very short time should be necessary to effect a thoroughgoing review.

VII. Partnership.
- A. Articles of copartnership.
- B. Relations of partners.
  1. To each other.
  2. To others.
- C. Accounts with partners.
  1. Capital.
  2. Personal.

VIII. Special attention to fixed assets.
- A. Office equipment (furniture and fixtures).
- B. Store equipment.
- C. Delivery equipment.
- D. Land.
- E. Buildings.
- F. Introduction of reserves for depreciation on fixed assets.

IX. Further development of the balance sheet.
- A. Involving differentiating fixed and current assets.
- B. Liabilities as usual.
- C. Proprietorship section for partnership accounts.

N.B. Numerous exercises should be worked out all through this discussion, beginning with partnership. Now a fourth short set (without vouchers) may be worked out. Special emphasis should be laid on the preparation of profit and loss statements and balance sheets in true accounting form.

This seems to be the most advisable place to end the first year's work. Because it has been customary to wait until the second year to introduce partnership accounts, it may seem peculiar

that we have suggested that they be introduced during the latter part of the first year. The reasons for this are: (1) there seems to be no justifiable reason for devoting a full year to single proprietorships; (2) the introduction at this time of partnerships paves the way for the introduction of corporation accounts early in the second year; (3) this procedure tends to leave the work seemingly unfinished at the end of the first year, making for a less abrupt break between the work of that year and the ensuing year.

COURSE OF STUDY FOR BOOKKEEPING II.

I. **General review of first year's work.**
II. **Controlling accounts introduced.**
  A. Accounts receivable.
    1. Account in general ledger.
    2. Subsidiary ledger.
  B. Accounts payable.
    1. Account in general ledger.
    2. Subsidiary ledger.
III. **Introduction of books of account involving control principle.**
  A. Cash book (four column).
    1. Receipts side.
      a. Net receipts.
      b. Discount on sales.
      c. Accounts receivable.
      d. General ledger.
    2. Payments side.
      a. Net payments.
      b. Discount of purchases.
      c. Accounts payable.
      d. General ledger.

B. Purchases journal (special closing).
C. Sales journal (special closing).
D. Supporting records as ticklers.
1. Notes receivable book.
2. Notes payable book.

N.B. At this juncture a set based on partnership may be worked out with supporting forms and vouchers. Of course, a review of some of the forms and vouchers used in the preceding set will be necessary. We might also use in this set the straight bill of lading, the credit bill, the certified check, the cashier's check, and the bank draft. This set should involve the use of controlling accounts and should run through the whole bookkeeping cycle. (By the bookkeeping cycle we mean that the set should involve all bookkeeping operations, from recording original entries to closing the books and taking a post closing trial balance.)

IV. Introduction of adjusting entries with new accounts.
A. Accrued assets.
B. Accrued liabilities.
C. Deferred charges.

V. Financial statements review and the introduction of necessary additions.
A. Working sheet (five pairs of columns).
1. Trial balance.
2. Adjustments.
3. Adjusted trial balance.
4. Profit and loss statement.
5. Balance sheet.
B. Profit and loss statement.

C. Balance sheet (with section for deferred charges).
D. Closing the ledger.
E. Post closing entries for reversing accruals.
F. Post closing trial balance.

VI. Problems peculiar to a partnership.
A. Forming a partnership.
B. Admitting a new partner.
C. Consolidating partnerships.
D. Retirement of partner.
E. Death of partner.
F. Dissolution of partnership.

VII. Consignments (optional—if time permits).
A. Consignments out account.
B. Inventory of consignments out.
C. Consignments in account.
D. Inventory of consignments in.
E. Commission account.
F. Storage account.
G. Drayage account.

N.B. If the subject of consignments is taught, a short commissions business set may be worked out at this point, using no forms except the accounts sales.

VIII. Single entry (optional—if time permits).
A. Single entry journal.
B. Single entry cash book.
C. Single entry ledger.
D. Entry necessary to change from single to double entry.

N.B. If single entry is taught, a very short set may be worked out setting forth the above

named details. This should have no forms and should be decidedly brief.

IX. Entries necessary to open books.

- A. When assets other than cash are being invested.
- B. When a set of books is being opened by a going concern.

X. The corporation.

- A. Definition and legal basis.
  - 1. General corporation law.
- B. Legal characteristics.
  - 1. Operation.
  - 2. Indirect control.
  - 3. Debt liability.
  - 4. Profit sharing.
- C. Accounting peculiarities.
  - 1. Capital stock.
  - 2. Profit and loss; distribution of.
  - 3. Surplus.
- D. Opening entries.
  - 1. Subscriptions.
  - 2. Payment of subscriptions.
    - a. Cash.
    - b. Property.
    - c. Installment.
  - 3. Issue of stock.

XI. Accounts.

- A. Review of old accounts, particularly those hard to grasp or seldom used.
- B. Introduction of new expense accounts affording finer distribution.
- C. Introduction of depreciation accounts and review of reserves.

D. Introduction of fixed liabilities.
   1. Mortgages payable.
   2. Bonds payable.

E. Introduction of intangibles.
   1. Good will.
   2. Trade-marks.

XII. Introduction of new books of account.

A. Cash book (five and six columns on each side).

B. Sales book (with special columns for cash sales and installment sales).
   1. Use of cash sales column in sales book.
      a. As a credit column.
      c. As a debit column.

C. Purchases and expense journal (with columnar provision for purchase of several types of articles and expenses).

D. Purchase returns and allowances journal.
   1. As basis for general journal entry.
   2. As book of original entry.

E. Sales returns and allowances journal.
   1. As basis for general journal entry.
   2. As book of original entry.

F. General journal.
   1. Four column split.
   2. Four columns (all on one side).
   3. Six column split.

G. Petty cash.
   1. Rotating method.
   2. Imprest fund method.
   3. Use of petty cash book.

4. Use of petty cash recapitulation sheet.

XIII. Statements.

A. Review of working sheet.
B. Profit and loss statements.
C. Balance sheet (with special attention to form).
   1. Assets.
      a. Current assets.
      b. Inventories.
      c. Prepaid expense items.
      d. Intangibles.
      e. Fixed assets (less reserves).
   2. Liabilities.
      a. Current liabilities.
      b. Fixed liabilities.
   3. Capital.
      a. Capital stock issued.
      b. Surplus plus current profit.

N.B. A set should now be introduced that will carry through the business dealings of a departmentalized business, a wholesale or retail furniture business for instance, where the above mentioned columnar books might be used. Once more, we want to use very few forms; none that will entail much arithmetic. We suggest the introduction of a cashier's window sheet, voucher checks, order bill of lading, and warehouse receipts.

XIV. Introduction of cash book as the only book of original entry.

A. Cash book with many columns.
B. Ledger (same as before).
C. Closing work and statements.

N.B. A very short set without vouchers should be worked out which involves the use of such a cash book.

XV. Manufacturing.

A. Economic and historic considerations.
   1. Factory system.
      a. Division of labor.
      b. Labor saving devices.
      c. General organization.
      d. Activities.
   2. Distribution of product.

XVI. Accounts to be used.

A. Raw material.
B. Direct labor.
C. Manufacturing expenses.
   1. Indirect labor.
   2. Repairs and renewals.
   3. Fuel, light, and power.
   4. Factory supplies.
   5. Royalties.
   6. Insurance on machinery, materials.
   7. Taxes on machinery, materials.
   8. Depreciation on buildings.
   9. Depreciation on machinery and equipment.
   10. Depreciation on lasts and pattern or other assets peculiar to the business in question.
   11. Loss on tools.
D. Goods in process.
E. Finished goods.
F. Machinery and equipment.

XVII. Introduction of books of account.

- A. Cash books divided.
  - 1. Cash receipts in separate book.
  - 2. Cash payments in separate book.
- B. Voucher register.
- C. Special columns to fit particular business.
- D. Perpetual stock record.

XVIII. Statements and reports.

- A. Posting and trial balance.
- B. Adjusting entries and adjusted trial balance.
- C. Working sheet with six pairs of columns (extra pair for cost of goods manufactured section).
- D. Profit and loss statement.
  - 1. With schedule showing cost of goods manufactured.
  - 2. With schedule of administrative expenses.
  - 3. With schedule of selling expenses.
- E. Balance sheet.
  - 1. With schedule of accounts receivable.
  - 2. With schedule of accounts payable.
- F. Closing entries and closing the ledger.

N.B. A set with very few vouchers and forms may be worked out after the above elements pertaining to the manufacturing business have been developed. This set, like all others, should involve a complete bookkeeping cycle and should be a review of, and a unifying force for, the principles and practices taught and learned in connection with manufacturing.

Problems.

1. Refer to your revision of the New York state statement of bookkeeping aims (p. 26), and then build a course of study based on the outline suggested in this chapter, indicating what items you believe should be emphasized.

2. Assuming that you accept the Outline for Bookkeeping I that is offered in this chapter, lay out a plan showing how much of this work you will expect to cover each month of the school year, and then divide the work of each month so as to show how much you would expect to cover each week.

3. Examine carefully the bookkeeping textbooks that are now available and select the one that you believe will best fit your course of study. In presenting the solution of this problem, state the aims of your course, offer a brief outline of the course of study, and finally present the considerations that you think important in making your textbook selection.

4. "Properly to train bookkeepers we should know what bookkeepers do on the job." (p. 47). Apply this principle to your course of study by checking its subject matter against the experience of a number of bookkeepers in your community.[6]

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[6] Strumpf, Benjamin E., "Bookkeeping Duties and the Commercial Curriculum."

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Chapter V

THE LAWS OF LEARNING IN BOOKKEEPING TEACHING

Nature of Learning.

Learning may be defined as a process of adjustment.[1] Adjustment involves change. Learning, then, consists of certain changes; changes brought about by new connections being formed between responses and situations. It involves the formation of new associations and the reorganization of old ones. As Thorndike puts it, "A man's nature and the changes that take place in it may be described in terms of the responses—of thought, feeling, action, and attitude—which he makes and of the bonds by which these are connected with the situation which life offers."[2]

In bookkeeping teaching, for example, we change the student's nature by teaching him to make certain responses to given situa-

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[1] Buckingham, B. R., "Research for Teachers," p. 1.

[2] Thorndike, E. L., "Educational Psychology—Briefer Course," p. 4.

tions. He has for years known that cash was a thing owned; now we teach him that things owned are assets, and, therefore, cash is an asset.

The matter in which any individual will respond to any given situation is largely determined by (1) his *original* tendencies, and (2) his *learned* tendencies. From the very hour of conception, the organism is endowed with certain definite tendencies which, to some degree, will later determine the manner in which that organism, as an individual, will react. "Some of these original tendencies should be cherished, some should be redirected or modified, some should be eliminated."[3] It is a principle of education to utilize any individual's original nature as a means of changing him for the better, to produce in him information, habits, powers, interests, and ideals which are desirable.[4]

Adjustments, changes, and new and reorganized associations may promote social betterment or the reverse; they may tend to improve the individual's health, citizenship, home membership, vocational efficiency, and so on; or they may tend to be detrimental to the proper attainment of these generally accepted educational objectives.[5] It is the job

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[3] *Ibid.*, p. 116.

[4] *Ibid.*, p. 3.

[5] U. S. Bulletin No. 35. "Cardinal Principles of Secondary Education."

of the teacher to carry on his work in a manner that will tend to promote in the individual adequate improvement leading to the ultimate attainment of these objectives. In order to do this most effectively, the teacher must plan his work so that it most closely parallels the way in which adjustment, change, and growth in the individual takes place. "The wisest method of teaching and the most effective is the one which conforms most closely to the way the child learns."[6]

Three Major Laws of Learning.

There is a general agreement as to the fundamental conditions of learning; studies have, to a large extent, revealed that the learning process of all individuals follow the same general types and are subject to the same basic principles.[7] In the first place, a pupil cannot learn until he is ready to learn. You cannot teach a child percentage until he can do the fundamental operations required in working out this type of problem; you cannot teach him bookkeeping until he has some fundamental conception of business and its operation; you cannot teach him the use of special columns in the cash book until

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[6] Buckingham, B. R., "Research for Teachers," p. 3.

[7] Benson, Lough, Skinner, and West, "Psychology for Teachers," pp. 163–166.

after he has learned the use of simpler forms of the cash book. He must have some point of departure; something upon which to base his new knowledges; something with which to associate these new elements; he must, in other words, be ready for the things we want to teach him. This has been referred to by Thorndike as the "law of readiness."[8]

Second, we learn to do by doing. The child, though ready, cannot be expected to learn percentage by being told about it; he must himself work out some percentage problems, a few or several, enough firmly to fix the operation in his learning; the operation must then be repeated from time to time in order to keep it in the child's learning. "Every act we perform tends, other things being equal, to be performed again more easily; on the other hand, we unlearn by not doing; even a habit may be lost through disuse."[9] The same rule applies to bookkeeping; the student cannot learn bookkeeping by talking about it; he must actually perform bookkeeping operations in order to become proficient; he cannot learn the use of cash book, journals, statements, or any other phase of bookkeeping without actually doing some of this work; he will not retain this knowledge unless he continually uses it. This

[8] Thorndike, E. L., "Educational Psychology—Briefer Course," p. 173.

[9] Buckingham, B. R., "Research for Teachers," p. 8.

principle Thorndike calls the "law of exercise." [10]

Third, we must consider the effect that this repetition or exercise has upon the individual. "Acts are repeated which give pleasure, and acts are discontinued that give pain." [11] If learning percentage is wholly irksome to the student, he will not learn it; if learning bookkeeping is entirely unpleasant, he will not learn that. Of course there are times when everything is not pleasant about learning bookkeeping. Trial balances fail to balance, books do not check, statements will not work out correctly. Through these and other difficulties, the teacher must be equal to the situation; always doing his best to keep the student in the correct frame of mind; to keep him from being discouraged and dissatisfied. This principle Thorndike calls the "law of effect." [12]

These three fundamental laws, namely, the law of readiness, the law of exercise, and the law of effect, are basic to all learning. However, as such, it is difficult to visualize their application to a given classroom situation. Let us, then, divide them into their component parts and consider each, in so far as

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[10] Thorndike, E. L., "Educational Psychology—Briefer Course," p. 173.

[11] Buckingham, B. R., "Research for Teachers," p. 8.

[12] Thorndike, E. L., "Educational Psychology—Briefer Course," p. 173.

possible, in connection with its specific applications.

Law of readiness.—First, we might consider the "law of readiness." This law has both a general and a specific application. By a general application we mean that we must consider the subject as a whole; that is, Is the student ready to learn bookkeeping? By a specific application we mean that we must consider the individual phases of the subject; that is, Is the student ready to learn to post, is he ready to learn to make closing entries, etc.?

In considering the law of readiness, there are three things of which we must be mindful: (1) it is satisfying to the student to learn when he is ready to learn; (2) it is annoying to the student to try to learn when he is not ready to learn; and (3) it is annoying to the student to be ready to learn and not be permitted to learn.

Much is being done at present to aid the student as well as the teacher in knowing whether he (the student) is ready to learn bookkeeping. With the more or less general introduction of the junior high school have come numerous exploratory, try-out, and preparatory courses. Vocational civics and elementary business training are two of the courses that directly precede bookkeeping. They often perform the functions of ascertaining whether the student is ready to learn

bookkeeping, and also that of preparing students who seem apt in the work so that they may be better fitted when the time comes for the formal study of bookkeeping. Vocational civics is a general subject which usually is given to all pupils in the eighth year. It covers a discussion of various vocations and professions, with the aim of aiding the student to choose more intelligently his life work and thereby the curriculum which he will follow in the school years that are to come.

Elementary business training is at the present time generally given to those who choose the commercial differentiation. There is a feeling abroad, however (to which we heartily subscribe), that elementary business training should be divided into two parts: the first part being given to all students, and the second part to those who show aptitude for commercial work and choose to follow it.

The law of readiness must also be considered in connection with every lesson in the bookkeeping course. There are many ways in which the application is made. In teaching any lesson we must first provide conditions favorable to the learning act. The condition of the room, its appearance, light, and temperature; the comfort of the desks and the chairs; and the personal touch of the teacher must all be as nearly ideal as possible in order that the learning act most

readily may take place. Next we must remember that, in learning, we should proceed from the known to the unknown; from the concrete to the abstract. To do this, it is necessary that the student understand the basis from which we intend to work. Sometimes it will be necessary to relate some past experiences to the student; but, usually, by clever questioning, the teacher can elicit the necessary information, and, through a combination of relating and questioning, proceed into the new phase of the work and develop it.

For example, let us think of a lesson in which we are introducing a simple profit and loss statement. A question or two will bring out the fact that the student understands that the profit is the earnings of a business and that every business must operate at a profit in order to progress, even to survive. A few more questions will bring out the fact that the student understands that the principal profit of a trading business is derived from selling goods at a price higher than was paid for them. An example or two might be used to fix this point. One of the students may sell papers; he buys them for two cents a copy and sells them for three cents a copy. Students will agree that the same general principle applies to the operation of a store. In this way we make sure that the student is *ready* for the lesson that is to follow.

We might, then, set a hypothetical example. Let us say that a man sells goods in one month amounting to $1500 and that during the same month he bought goods amounting to $1300. How much money would he make if all the goods were sold? $200. Does the grocer usually sell out all his goods at the end of each month? No. Then he probably had some of these goods he bought left in the store. Probably. What name do we give to these goods that are left? We might call them "goods on hand" or "goods left." Here the teacher might introduce the term "inventory." If the grocer bought $1300 worth of goods and still has $300 worth in the store, how much did the goods that were sold cost him? $1000. Then, if the goods that went out cost him $1000 and he sold them for $1500, how much profit did he make? $500. Was this all clear profit? Some of the students will think that it was, but some one will usually suggest that the grocer probably had some expenses. What might have been some of these expenses? Rent, clerk hire, bags, wrapping paper, twine, gas and oil for his truck, etc. List a few and suggest amounts for them so that the total will amount to $200. What should we call these items? Expense. Are they necessary to the conduct or the operation of the business? Yes. Then shall we call them operating expenses? Agreed. If the grocer made a profit

on his sales of $500 and he had expenses amounting to $200 how much real profit did he make? $300. We may now introduce the terms "net profit" and "gross profit" and we have completed our introductory lesson. It is, of course, advisable for the teacher to run through this again—perhaps two or three times. It should be noted that, all through this lesson, the teacher must be certain that the student is ready for each step before the former teaches it, thus observing the law of readiness. After the lesson has been thoroughly taught, the student should be given some examples to work out for himself, thus applying immediately the law of exercise.

The law of readiness must also be considered in connection with home and class work assignments. No lesson should ever be assigned until after the salient points in the lesson have been made absolutely clear to the student; home work should be thought of as completing the learning of to-day rather than preparing for the learning of to-morrow.

Law of exercise.—The law of exercise is that law that has to do with repetition. It is sometimes called the law of use and disuse. There are several elements to be considered in connection with this law, among them being the question of type of practice, the length of periods of practice, the advantages

and the disadvantages of the whole versus the part method of learning, and the problems of retention and forgetting.

There seems to be no question but that we learn to do by doing; learning takes place most effectively when the student is expected to apply the principles taught as soon as possible after they have been taught. The most of the learning has not taken place in connection with the class discussion of the profit and loss statement discussed above; but rather will take place when the student is asked to work out for himself some simple profit and loss statements.

In this connection we should forever be mindful of the fact that this practice must be the right type of practice. What the teacher taught is not necessarily what the student learned or what he will learn. First, we must teach things the precise way in which they will be used; and, secondly, we must be absolutely certain that the student practices the work in the same precise way. Furthermore, he must be given continued opportunity to use his learning or else the *law of disuse* will disintegrate that learning.

In the past, in teaching bookkeeping, we have encountered a tendency to teach the student to perform an operation or to record a given transaction in some specific way; and, later, when the student is more advanced, to tell him that that knowledge is not

correct and that he must now adopt a new method. For example, there was a time when bookkeeping teachers taught sales discount before they taught the use of special columns in the cash book. The student was taught to record the full amount of the bill on the cash receipts side of the book and to record the amount of the discount on the payments side of the cash book. We all know that this is not acceptable accounting procedure; and the student was later taught that that method was incorrect and that an extra column should be placed in the cash book to take care of this discount. He was then taught the use of this new form of cash book. This is not precise practice; the student should be taught correct procedure from the very introduction of the work and should never be taught a method that must later be discarded to be replaced by a new and correct one. The student should never be expected to learn something that later must be unlearned.

By precise practice we do not mean that the most involved process, procedure, or form must be taught from the beginning; we simply mean that the process must be correct so far as it goes. Take, for example, the problem of teaching the profit and loss statement cited in dealing with the law of readiness. That profit and loss statement was the simplest thing possible, easily understandable by any ninth or tenth year student,

and well within his field of experience; yet everything taught in connection with that profit and loss statement was precisely correct. True, it will be modified; an old inventory will be introduced; sales returns and allowances, purchases returns and allowances, and freight will also be added to this original form; but still nothing about this most simple base will have to be unlearned. New elements will simply be fitted to this basic form. As in this case we must always use simplified materials, constantly drawing on situations with which the student, through his own life's experience, is well acquainted. Through these simplified introductions we can get the student gradually acquainted with the terminology and the more involved practice of bookkeeping.

The length of periods of practice is the next point to be considered in connection with the law of exercise. Several studies[13] have been made through which many individuals have endeavored to learn just what is the most desirable length of the practice period for such subjects as arithmetic, shorthand, and typewriting; but little has been done to ascertain just what is the best length of time for the practice of bookkeeping.

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[13] Starch, Daniel, "Periods of Work in Learning," *Journal of Educational Psychology*, vol. 3, pp. 209–213 (April, 1912). Kirby, Thomas J., "Practice in the Case of School Children," pp. 54–63.

Relatively short practice periods are generally considered most effective. Practice periods must not be too short, however; the work involved must be taken into consideration. Some phases of bookkeeping may be handled in a comparatively short time; other phases require a longer period. It is doubtful if more than a single school period of from forty minutes to one hour should be devoted daily to the study of bookkeeping.

It is impossible to say just how much of the class period should be given over to written practice material, and how much should be given over to oral discussion. The judgment of the teacher must be the court of final appeal. It should be pointed out that there is need for keeping a proper balance between these two phases of bookkeeping learning. There is danger in placing too great an emphasis on the recitation method of teaching this subject. Bookkeeping is best learned by applying bookkeeping principles to actual situations through the medium of properly planned exercises and sets. A considerable amount of practice material, especially in the form of exercises, is necessary. On the other hand, class discussion of principles and procedures is of vast important. A well balanced combination of these two methods is necessary to the successful and economical learning of bookkeeping.

The next point to be considered in connec-

tion with the law of exercise is whether the whole or the part method of presentation should be used. In teaching our subject should we teach a little bit and drill on that, then add a little bit more, and in that way try to build up our subject matter knowledges, skills, and ideals, or should we teach with the idea of covering, as soon as possible, the complete bookkeeping cycle? This latter seems to be the more advisable procedure; a preponderance of evidence seems to show that the "whole" method of learning is better than any "part" method. "It is more advantageous and it is psychologically and pedagogically more appropriate to learn every sort of material as a whole than it is to break it up into parts."[14]

It will be noted that, in laying out the syllabus suggested in Chapter IV of this book, the whole method idea was used as a basic principle. It will also be noted that, during the first year's work, the bookkeeping cycle has been repeated several times, each time, of course, enlarging upon some of the bookkeeping phases involved. It is essential that we do this in order that the student get a complete view of the whole bookkeeping situation and its relation to business. This plan requires that, as soon as possible after the course starts, the student shall learn how

[14] Buckingham, B. R., "Research for Teachers," p. 24.

to do all phases of bookkeeping work, including making entries in the journal, posting, taking a trial balance, making statements, preparing ledger closing entries, closing the ledger, and taking a post closing trial balance. The work of the first cycle will be very simple and should be followed by another cycle in which special journals and negotiable instruments are introduced, and this cycle followed by still another in which special columns and some new accounts are brought to the attention of the students. This plan tends to aid the student to have a clear vision of bookkeeping as a whole, and also to help him to understand the connection between the various phases of the subject. The plan involves frequent repetition of the things learned without the disagreeable features which frequently attend the ordinary type of drill.

It will be necessary at times to deviate somewhat from the whole plan. Naturally, some phases of bookkeeping work will not be learned as well as some other phases. Closing entries, for example, often must have special attention. In dealing with such problems, the only thing to do is to take the troublesome phase of the work out of its position in the cycle and to give it special attention and drill. The teacher must be constantly on guard to note which phases are being properly learned, and which are not

being so satisfactorily learned. Those phases in which the student shows strength need comparatively little special attention, simply enough repetition to fix them and hold them in the mind; but those phases in which the student shows weakness must be worked on and drilled on until the difficulties are cleared up.

After the difficulties have been cleared up through special drills, the teacher must put the work back into its proper place in the cycle, and in so doing must be absolutely certain that the student understands the manner in which this special and somewhat troublesome phase fits into the whole scheme.

Another element to be considered in connection with the law of exercise is the problem of forgetting. As soon as a thing has been learned we immediately begin to forget. Forgetting may and should be offset in the learning of bookkeeping by the teacher's requiring the student to recall the learned situations soon after they have been learned, then, at intervals, rather short at first and longer and longer as times goes by, the student should further be required to recall these learned situations. The cycle method in bookkeeping teaching mentioned above and used as a basis for the outline in Chapter IV lends itself admirably to this plan of recalling learned situations at intervals.

Take, for example, the profit and loss

statement. Under this plan it should originally be learned during the first few weeks of the course. A short time elapses during which the accounts and the ledger are learned and then the profit and loss statement is called into use; then more time elapses during which the journal and posting are learned and once more the profit and loss statement is used. This same idea applies, or should apply, to every bookkeeping situation that is learned. Naturally, as these learned phases of the subject are recalled, they will be further developed—constantly brought closer to acceptable accounting form. Each recall not only furnishes a base for further building, but should cause that base to be more firmly imbedded in the mind.

Law of effect.—The third of Thorndike's laws is the "law of effect," which states that, when the learning act is accompanied or followed by a pleasant state of affairs, that act is likely to be better learned and more readily repeated; but when the learning act is accompanied or followed by an annoying state of affairs, the act is not likely to be repeated.[15] The operation of this law depends largely upon the general surroundings, the mind set of the pupil, and, to an aston-

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[15] Thorndike, E. L., "Educational Psychology," Vol. II, p. 4.

ishing degree, upon the attitude of the teacher.

First of all, to have the student learn best, his physical surroundings must be as nearly ideal as we can make them. In this connection the law of readiness and the law of effect, to some degree, overlap each other. The room should be well lighted, properly ventilated and heated, properly cleaned, and well arranged. The desks and the chairs should be of comfortable design. The student's equipment should be of the type that will tend to promote the best type of work.

The mind set of the student and the attitude of the teacher are very closely related. It is possible that the student may carry to the class a mind set not conducive to good work. Perhaps parental pressure has caused him to elect bookkeeping against his own desires; possibly the age laws keep him in school though he does not care to stay; and because of this condition all school work irks him. The clever teacher can frequently bring about a more wholesome feeling toward the work, and, at least occasionally, succeed in getting the student to start on the road to success. It seems worth trying.

On the other hand, the bad mind set of the student may be the direct result of a bad attitude on the part of the teacher. A harsh voice, nagging, sarcasm, belittling, and lack of sympathy are all points about a teacher's

personality that tend to cause a student to dislike him, and, in turn, to dislike attending his class; and frequently they result in the student's disliking the subject which the teacher teaches. Nearly all these points about the teacher's personality naturally detract from the pleasantness of the classroom. They make the teacher less approachable; they tend to make the learning situation unpleasant; and thus they tend to make learning difficult. A person who has such unattractive qualities, whose personality is weakened by habits of sarcasm and nagging, who lacks that element of human sympathy that all should strive to possess certainly has no place in the teaching profession.

A feeling of satisfaction should exist throughout the school experience of the child, if most effective learning is to take place. A pleasant, helpful attitude on the part of the teacher, a willingness to assist the student in his difficulty, a real desire to have his students succeed, all help tremendously in making learning pleasant. A teacher, in addition to his personal qualities, should have complete command of his subject, and should know how best to teach it. He must be able to inspire his students to want to do, and to do, better and better work. The teacher who successfully makes this law of effect, along with the other two general laws—the law of readiness and the law of

exercise—function will find that his work will give him increased satisfaction as well as that exhilarating feeling that invariably accompanies the knowledge of work well done.

Five Subsidiary Laws of Learning.

In addition to the three major laws of learning that have been cited and discussed, Thorndike also suggests five subsidiary laws which we cannot afford to overlook in this chapter on the learning process, or, to be more exact, on the laws of learning applied to bookkeeping teaching. These five subsidiary laws [16] are:

1. The law of multiple response or varied reaction.
2. The law of mind set or attitude.
3. The law of partial or piecemeal activity.
4. The law of assimilation or analogy.
5. The law of associative shifting.

Law of multiple response.—In the problem of learning the profit and loss statement, which has been mentioned so many times in this chapter, it will be noted that varied responses may be expected in answer to some of the questions. Students will offer several reasons for a man's being in business besides that of making a profit; several reasons why he should or should not be entitled to a profit. In discussing profit on sales some students will suggest that it is all profit,

[16] *Ibid.*, pp. 12–17.

while others will believe or realize that certain expenses must be deducted. The more involved or the more difficult the problem is the more varied are the responses likely to be. The teacher should most carefully word his questions and then, after the various responses have been made, he should deftly direct the attention of the class to those responses that are most pertinent to the problem at hand.

This law of multiple response or varied reaction must also be kept in mind when making up examination questions. The teacher should be certain that the questions permit of but one correct answer. This particularly applies to the new type of examination. When grading examinations, students should be given credit for responses that are really correct answers to the questions asked, despite the fact that those responses may not have been the ones expected. If the questions are carefully worded, this condition is less likely to exist.

Law of mind set.—The second subsidiary law, the mind set or attitude, is very closely allied to the third major law, the law of effect. As has been pointed out on a preceding page, the learner's mind set, or attitude toward school, toward the subject, toward the teacher, or toward the lessons have a conditioning effect on the learning result. That mind set may be caused by conditions en-

tirely beyond the control of the school; or, on the other hand, it may be the direct result of some pleasant or unpleasant experience which the student has had in school. Teachers can often do much toward getting the students to have the right attitudes and mind sets; and they should strive always to do this, and should realize that they are teaching boys and girls who they hope will become worthy citizens of the community. Proper mind sets and right attitudes are vitally essential to good citizenship.

Law of piecemeal activity.—The third subsidiary law, the law of partial or piecemeal activity, is closely related to the law of exercise. This law points out the fact that students (learners) tend to concentrate their attention on one thing at a time, and, because of that, our teaching content must be broken up into small specific elements. For example, in teaching the profit and loss statement (if we may be permitted once more to refer to it), sales, purchases, profits from selling goods at a price higher than cost, and operating expenses were discussed. This does not mean that we can or should detach all these elements and teach and drill on them as individual items. We must first give the student a preview of the whole situation, then break that situation up into its smaller parts. Only by so doing can we hope to have the learner understand the whole situa-

tion and how it fits into the entire scheme of things.

Another point that relates to this subsidiary law is the question of simple versus involved situations. Never, under any circumstances, should an involved problem be set up as an introductory exercise; even the mathematical points about it should be in round numbers so as to eliminate all possibility of unnecessarily confusing the student. In order most strictly to comply with this law, the teacher should have certain specific aims for every lesson he teaches. He should then teach that lesson in such a way that he attains his goal. He can do this only by eliminating irrelevant and confusing matter and presenting the work in as simplified a form as is possible.

Law of analogy.—The fourth subsidiary law, the law of assimilation or analogy, is closely related to the law of readiness. Practically every response we make in life is conditioned to some degree by some previously dealt with situation which it resembles. The most effective functioning of this law depends upon two things: (1) in order to learn bookkeeping most effectively the learner must have had some previous experience to which the bookkeeping work will relate, some point of departure, a general knowledge of business, or something with which to associate the situations encountered

in the study of bookkeeping; and (2) the learner will make these associations most readily when the teacher makes it a point to see that the student realizes the relationship that exists between his past experiences and his new learning situations.

If the teacher tries to teach the balance sheet by abstractly setting up the fact that the asset is a thing a business owns, and then proceeds to point out that the business has cash and merchandise that are assets, he may not get his point over. If, on the other hand, he establishes the fact that every person owns things; has the students name some of the things that they own, such as radios, bicycles, and clothing; and then establishes the fact that in bookkeeping such owned items are called assets, it is a simple thing to proceed to the discussion of business assets. The teacher has made his contact with the student's life experiences. The student's associations have been properly directed; he has established, through the teacher's prompting, a connection between things with which he is well acquainted and this new point that might otherwise have been to him an abstract element soon to be forgotten.

Law of associative shifting.—The fifth subsidiary law, the law of associative shifting, is related in a measure to the law of exercise. According to this law it is possible to "get any response of which a learner is ca-

pable associated with any situation to which he is sensitive."[17] In other words, it is possible to get students to think of things as assets, or of cash received as being debited to cash. After coming in contact with the same situation many times, the neural bond becomes so firmly established that it is no longer necessary to reason out a thing, for, almost instinctively, we make the proper response. It is no longer necessary for us to say that cash is a thing owned, and, in as much as a thing owned is an asset, cash must be an asset. After following this line of reasoning through a few similar situations, we soon recognize cash as an asset without giving it further thought. The example of cash received is similar; (1) we recognize that cash is an asset; (2) we know that, when cash is received, the asset is increased; (3) we know that, when a transaction increases an asset, the asset must be debited; (4) we decide that cash must be debited for the amount of cash received. After following this line of reasoning through a few times when confronted with similar situations, we ultimately reach the point where we simply recognize the fact that when cash is received cash is debited. In other words, we have shifted our associative base; we have short-

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[17] Thorndike, E. L., "Educational Psychology," Vol. II, p. 15.

ened and made more direct our neural connection.

In conclusion, it is necessary to point out and to emphasize that the laws of learning, both the three major laws and the five subsidiary laws, are a part of the whole learning process, and must not be considered as isolated factors. The teacher, as he stimulates, guides, and reinforces the pupil in his learning, observes first one and then another of the laws.

Problems.

1. With reference to the effect of a teacher's personality on the pupils, list all the positive qualities that the bookkeeping teacher should strive to possess and all the negative qualities that he should strive to avoid.

2. Some time ago bookkeeping was taught largely through the medium of sets. Now bookkeeping is taught largely through the discussion and solution of problems or exercises, with sets used only to unify and review material already learned. What learning principles are involved in this change?

3. What are the major advantages of planning the bookkeeping course on a "cycle" basis from the point of view of learning principles? (See p. 90.)

4. Is precise practice always the best practice to which bookkeeping teaching should strive, and why?

5. Illustrate, in the teaching of bookkeeping,

the three major and the five subsidiary laws of learning.

6. What plan of organizing a bookkeeping class will make it possible for the largest number of pupils to learn bookkeeping "at a best rate consistent with best quality"?

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Chapter VI

REFLECTIVE THINKING PROCEDURE IN BOOKKEEPING TEACHING

The procedure in bookkeeping teaching may be divided into three intimately related yet easily recognized divisions: (1) the reflective thinking procedure, (2) the skill building procedure, and (3) the character building procedure. The present chapter discusses the first of these; Chapter VII deals with the second; and Chapter VIII treats of the third. While a separate chapter is devoted to each of these three procedures, the teacher should be cognizant of the fact that a situation seldom arises, either inside or outside the bookkeeping classroom, which does not involve all three of these elements. In solving any problem, some reflective thinking must be done; in its solution some of the skills already acquired will be called into use; and, finally, the solution ultimately reached will be, to some degree, determined by the character traits of the individual reaching that solution.

Reflective thinking is the process applied to solving problems. When the student is

confronted with a new situation, it is obviously necessary for him to think the thing out. The good teacher will not simply tell him the answer, but rather will intelligently lead him, step by step, to an acceptable solution of his problem. If this procedure is constantly used whenever the student is confronted with new situations, he should be capable, when his school course is completed, of applying the procedure to the solution of his life problems without the aid and the leadership of the teacher. This will be especially true if the teacher has constantly pointed out to the student the steps needed in applying the reflective thinking procedure.

The reflective thinking process may be analyzed into the following steps:

1. Experiencing a situation, actually or vicariously, in which a problem is present.
2. Consciousness of a real problem, or "felt difficulty" in the situation.
3. Exact and concise definition of the problem.
4. Ascertainment and discussion of the pertinent subject matter that is needed to solve the problem.
5. Analysis of the problem into its elements or component parts.
6. Determination and discussion of the possible one or more solutions or hypotheses of the problem.

7. Try-out of what seems the most plausible solution.

8. Verification of the solution to see if it *works.*

9. If the solution is not practicable, then try out other possible solutions until one is found that is satisfactory.

This analysis may help the teacher to guide more intelligently the learning of the pupils. It should be noted, however, that these steps do not always follow in this precise order. It should also be realized that all these steps are not of equal significance in solving all problems. Some problems are very much easier than others; some thinkers are much more sagacious than others. The most highly intelligent of students may divine the correct solution without making use of all these steps, while others, of less nimble wit, will necessarily proceed to their solutions by the slower route. Furthermore, a problem solving situation must be considered in terms of its totality; the different steps are merely so many phases of the whole. The following are a few bookkeeping teaching situations to which the several steps of the reflective thinking process may be applied. The numbers used in the following illustrations correspond with the steps which have been indicated in our analysis.

Introduction of Special Journals.

1. It is assumed that, during the first bookkeeping cycle, no book of original entry has been used other than the general journal.[1] When the teacher is about to introduce special journals, it is advisable that he assign a regular general journal problem in the working out of which the students are required to make journal entries, post to the ledger, and take a trial balance. The teacher will simplify later steps if he does not include in this particular problem either cash sales or cash purchases. The presence of these would complicate the problem to some extent. Some bookkeeping systems call for the recording of cash sales in both the sales journal and the cash book, while others teach students to record these sales only in the cash book. Regardless of which plan is later to be followed, it will simplify matters during the introduction of special journals if such items are not considered at all. After the student has learned the special journals, he may then be taught how to record cash purchases and cash sales in them.

2. After running through the completed exercise and clearing up any difficulties that may be present, the teacher may ask the stu-

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[1] There are methods of approach that do not follow this procedure, but the most popular ones do.

dents if they have noticed any similarity in the transactions that they recorded in their journals. Usually some one will have noticed that several of the transactions are about the same; that is, that several deal with the sale of goods; several, with the purchase of goods; and several, with the receipt or the payment of cash. Is it possible that we may be able to handle these similar transactions in a way that will make for greater efficiency? The students are now conscious of a problem.

3. Let us take just one group of them at a time; sales or purchases are probably the best with which to begin. Suppose we decide to deal with sales first. The teacher may suggest to the students that they look through the journal and place a check mark beside all entries that were made to record the sale of goods. Is there any other way that we might handle these sales so that it would not be necessary for us to make so many entries that are almost alike and which require so much posting? The problem is now made specific.

4. The teacher should be certain that the students understand what we are going to try to do. Have some discussion that will bring out the fact that we want to plan a method whereby we can record these sales in a manner that will require less labor and space. It may be necessary to be certain

that they understand the meaning of some of the terms involved.

5. The teacher will now definitely point out that the elements of the problem are the sales which were recorded in the journals that the students have already prepared, naming them separately, as: On June 3 we sold goods to J. Roberts, on June 7 we sold to H. Williams, and on June 10 we sold to A. Hill.

6. At this point the class should be asked to suggest some solution to the problem. Some one may suggest that we simply add all the sales together and post them in one lump sum. It will have to be pointed out that this is hardly practicable in as much as they are not consecutive entries. Someone usually will then suggest that we make them consecutive by reserving a section of the journal just for sales. It sometimes helps if the teacher accepts this suggestion tentatively and records two or three of the sales in regular journal form on the blackboard. After seeing a few recorded in this way, some student will be almost sure to point out that there is no need of constantly repeating the credit "sales" or "merchandise sales"; that it would be sufficient if we simply listed the names of the customers and showed the total only when we wanted to post. At this point we may introduce the regular form of the sales journal, pointing out the different spe-

cial features of it and asking questions to make certain that this form and its features are entirely understood.

7. The students may next be asked to draw up the form of this new book on journal paper and to record the sales transactions that appear in the other exercise and which we checked earlier in the lesson. They should also be asked to post their work to a ledger.

8. Now we must check our work to be sure that we have the desired result. The students might be asked to point out the ways in which this new method of recording sales is more economical than the older method and at the same time is fully as accurate.

9. Because the solution we accepted in step 7 proved adequate, step 9 does not apply to our problem. This step should be emphasized, however, as a very important one in the reflective thinking process. People who are working without the guidance of a person who knows the proper solution will probably accept hypotheses which later prove wrong or inadequate, making it necessary for them to try out others.

After we have thus introduced the sales journal, we may proceed to introduce the purchases journal in the same fashion. This journal is so much like the sales that the discussion at each step may be greatly reduced; some steps may even be eliminated.

After the purchases journal has been taught, the work of teaching the cash books may be undertaken. The students will probably recognize the need of entering cash received and cash paid in separate places; the teacher will probably have to tell them of the usual practice of using pages that face each other and of using the left page for cash received and the right page for cash paid out. The student may encounter some difficulty in posting, in that the debits seem to be posted to the credit side. If the teacher places the proper heading at the top of the columns he will to some degree obviate this difficulty. He may also find that it will help if he has the students think of the cash receipts and of the cash payments books as two separate books.

It will finally be pointed out that, while we have found a new and a better way of recording most transactions, a few transactions must still be recorded in the journal. It will be brought out that transactions should be entered in the regular journal when that type of transaction does not occur frequently enough to warrant the use of a special journal. This means that all transactions of a miscellaneous nature that cannot be recorded in one of the special journals will be entered in this journal and that it is now called the "general journal" to distinguish it from the "special" journals; that is, from the "sales"

journal, the "purchases" journal, the "cash receipts" book (or journal) and the "cash payments" book.

Introduction of Special Columns in the Cash Book.

1. The problem of merchandise discount on sales and merchandise discount on purchases, and the introduction of a special column in each of the cash books for recording these discounts, should be taken up at the same time. It can usually be assumed that the student, through situations encountered in other courses (commercial arithmetic and elementary business training particularly), has already developed some fundamental notion of sales and purchases discounts. However, the teacher should plan to give some time to a review of some of the features of this problem. He should touch on the meaning of the terms "cash" or "merchandise" discount; he should be certain that the students understand such expressions as 2/10—n/30; he should be certain that the students understand the significance of merchandise discounts and that they realize the advantages accruing to the business man who discounts his bills. In connection with this review, the teacher should have the students work out some arithmetical problems dealing with these discounts. Of course, if the teacher

finds that the students are deficient in their ability to handle any phase of the cash discount work, he will have to clear up that deficiency before proceeding. For example, it is sometimes discovered that students do not know how to calculate cash discount. If an invoice is for $1,000 and the terms are 5/10, 2/30, n/60, the student must know that, if the bill is paid within ten days after its date, a 5 per cent discount may be deducted. He must know how to calculate that discount, how to find out that the discount (if the bill is paid within the allotted ten days) is $50, and that the net amount to be paid is $950. If the students do not know how to do this the bookkeeping teacher will have to teach them how.

After the teacher feels that the students are thoroughly acquainted with the problem of discounts, he may then direct the attention of the class to the bookkeeping problem involved in recording them.

By way of introduction, it is a good plan for the teacher to draw up the form of a sales journal on the blackboard and to record in it two or three sales, giving terms that offer discounts. Let us say that the sales recorded are as follows:

May 3	Ray Van Tassel	Darien, Conn.	2/10, n/30	$500.
6	Stanley Woundy	Springdale, Conn.	5/10, 2/30	600.
10	George Batterson	New Canaan, Conn.	2/10, n/30	400.

The teacher may then suggest that Ray Van Tassel sent in a check on May 12 in payment of the invoice of May 3 less 2 per cent; in other words, he sent in a check for $490. The student is now in a situation where a problem is involved.

2. The students may be asked if they have any way of recording such a transaction. They will agree that they have not; that they realize that this is a new situation; and that a problem confronts them that they must solve.

3. It may be well to have some student state definitely just what this problem is. He will, or should, state that the problem is that of determining an acceptable method of recording Van Tassel's check for $490, which was received in full payment of the invoice of May 3 less 2 per cent.

4. The teacher should be certain that all the students understand just what the problem is. Some discussion at this point may be advisable that the teacher may know that the students do understand the problem and also that they understand all the terms used in connection with it.

5. Analyze the problem. The total amount of the invoice was $500, the check was for $490, the discount was $10. We accepted this check in full payment of the invoice. How shall we record the transaction?

6. Some one will suggest that the transac-

tion should be recorded in the cash receipts book. How much? $490, that is the amount of cash we received. Suppose we accept the suggestion for the time being, draw up the form of a simple cash book on the blackboard, and record the entry suggested. Follow this up by drawing a T account for Van Tassel and post to it the sale for $500 as a debit and the cash received item of $490 as a credit. Ask the class if Van Tassel did not pay in full. Yes. Then should not his account balance? They will agree that it should; therefore, there is something more to do; we have not yet taken care of the $10 discount. What should be done about that, how and where should it be recorded?

Some student will probably suggest an entry in the journal. When asked to frame this entry he will probably reason that this discount is an expense or cost item, therefore, some expense account should be debited, and, in as much as an asset (Van Tassel's account) is being decreased, we will have to credit Van Tassel.

7–8. The teacher will probably have to suggest the name of the new account "Discount on Sales," but aside from this he may accept the entry as the student set it up. A general journal should be drawn on the board, the entry recorded, and the credit of the entry posted to Van Tassel's account, thus closing it. The teacher may suggest that it be as-

sumed that Woundy has sent in a check in full of his account less 5 per cent. The students may now be led through the same process, recording Woundy's check. This will help the student to see more clearly just how the thing was handled and particularly to understand the need for debiting "Discount on Sales."

9. The teacher, or perhaps a student, may raise the question that this procedure seems rather long; that this very common transaction requires (by this method) two entries in two separate books, both of which must be separately posted to the customer's account. Is there not some more acceptable method of recording this transaction?

6–7–8. We have now returned to step 6. It will probably be necessary for the teacher to suggest the three column cash book; students will not usually think of it. He should draw up the new form on the board and record Van Tassel's and Woundy's payments in it, pointing out that the cash received is entered in the net cash column; the discount, in the discount column; and the full amount of the invoice, in the last column. It may be further pointed out that now the full $500 is posted all in one sum to Van Tassel's ledger account.

We may now further assume that Batterson has paid his account in full less the discount. The teacher should ask the stu-

dents to decide the entry for this transaction and direct the posting of it to the Batterson T account. A question will probably be raised about the discount column, but it is easy to clear that up by reminding the students that, when similar items appear quite frequently, we save time by posting the total of them at the end of the period rather than posting each individual item. An analogy may be drawn to the cash received column in this book and to the sales column in the sales book.

Another exercise may be worked out with the students, posting it throughout, including totals; and still another may then be assigned for home work.

The next lesson will be on discount on purchases. Naturally the lesson may be much shorter than the one pertaining to sales discounts; but it should be traced through about the same way, so as to be certain that the students follow the correct reasoning; in other words, that they learn "why" certain things are done as well as "how" they are done.

After the students have become acquainted with the method of recording both cash received and cash paid out problems involving discounts, they should be asked to work out exercises involving the use of sales books, purchases books, and the new form of cash receipts and cash payments books, thus plac-

ing the problem of recording sales and purchases discounts in its natural setting in the bookkeeping system.

Controlling Accounts.

1. In introducing this problem the teacher will do well if he gets the students to thinking about a firm (preferably some particular firm with which they are to some degree acquainted) that does considerable business, and which, in all probability, has numerous accounts with customers and creditors in its ledger. Ask the students if they think any difficulties might arise where there may be hundreds of accounts in the ledger of a firm. Some one will suggest that one difficulty might be felt when the bookkeeper tries to take a trial balance and finds that it does not balance. He would have a seemingly hopeless task in trying to check all the postings to these accounts. Some one else will suggest that, where several people work on the books, keeping all accounts in one ledger would slow up the bookkeeping work and doubtless would lead to confusion.

The students, through this kind of reasoning, are gradually made conscious of the fact that, as a business grows, the accounts in the ledger are likely to grow numerous. This naturally presents a problem; the ledger is growing cumbersome because of the numer-

ous accounts, and, for the sake of efficiency, something should be done to correct this seemingly troublesome condition.

While we have discussed our problem in general terms, the student may not yet feel any real difficulty. The problem should be made more specific. A good plan is to have this lesson immediately follow the completion of an exercise in which the students have been asked to make entries in books of original entry, post to the ledger, and make a trial balance. It will simplify the problem if the teacher leaves out transactions that should be recorded in the general journal. It is usually easier not to bother with the general journal at first when teaching controlling accounts.

The teacher should be certain that this exercise does contain a fair number of customers' accounts and creditors' accounts, perhaps six or eight of each. The students should be asked to refer to the ledger of this exercise and note which accounts are customers and which are creditors, also how many of each there are. They may then be asked to look through their ledgers to see if there is any other fairly large group of accounts that are as closely related to each other as are the customers' and the creditors' accounts. They will, or should, find no such group.

It may then be brought out that these groups of customers' and creditors' accounts

are already fairly large and will be likely to increase in number as the business grows.

2. Now our problem is that of devising some way of providing for this growth and at the same time of keeping our books on an efficient basis. Placed in this definite situation the students will begin to realize that there is a real problem present; they will be conscious of a definite difficulty to be contended with.

3. Let us turn our attention to the customers' accounts only for the time being. Our problem is that of finding some way by which these customers' accounts may be handled so that almost any number of accounts may be added without impairing the efficiency of our bookkeeping system.

4. The teacher should be certain that the students understand just what we are going to try to do. Some further discussion on this point may clear up the situation for those who do not clearly understand what we are about to do.

5. The teacher should point out, or bring out through class discussion, the elements of the problem. We have these six or eight customers' accounts whose status is to be changed for the better. Entries are posted to these accounts from the sales book and from the cash book. What can or should be done?

6. Some student will probably suggest that

we simply have a special ledger to which we post customers' accounts. It will be readily seen, however, that, while this may to some degree remedy the confusion caused by having all ledger accounts in one book, this plan would in no way help the difficult trial balance situation. The teacher will probably have to suggest that, while we will want a separate or a special ledger for these customers' accounts, we will have to have an account in the main or general ledger which will act for or take the place of all these individual accounts. This account would show a balance that should be the same as the total of the balances of the accounts in the special ledger. The students should here be told that this account in the main or general ledger is usually called a controlling account.

We are dealing with customers' accounts. What types of transactions affect customers' accounts and in which books are they recorded? Sales, recorded in the sales book; cash received on account, recorded in the cash receipts book; and notes received on account as well as sales returns and allowances, both recorded in the general journal. It should be noted by the student that in this particular exercise there is no general journal, therefore, the only books that are involved are the sales book and the cash receipts book.

The teacher should now work on the black-

board, and should direct the attention of the class to the sales transactions for the time being. He may draw up a sales book on the board and enter in it the sales that are in the exercise that the students have already prepared. Next he may designate two sections of the blackboard for the two ledgers, heading one space "General Ledger" and the other "Accounts Receivable Ledger." Now draw up a T account for each customer and post each item to these accounts. Now what about the general ledger, what should be posted there? Sales, surely. Draw a T account for sales and post the total. Where is the controlling account about which we were talking? Draw up another T for that. What shall we call it? Someone will suggest "Controlling account," but, when we point out that before long we may have others, they will see the need of having a distinctive title and someone will usually suggest the name "Accounts Receivable," in as much as we have already applied that name to the ledger which this account is to control.

7. The teacher will then draw up another T account in that section which he set aside for the general ledger and head it "Accounts Receivable." Questioning will probably bring out the fact that, in as much as the individual accounts were debited with the individual accounts, the Controlling account should now be debited with the total.

8. Then the teacher should direct the class to note whether the Controlling account does what we held that it should. Yes, the balance of the Accounts Receivable account in the general ledger is the same as the total of all the balances in the customers' ledger. The teacher should now go through another similar exercise to clear up loose points, to show how to rule up the sales book, and once more to point out the fact that the control functions as it should. Another exercise involving this one phase may be assigned for home preparation.

In the next lesson the student will be reminded that, of course, the exercise of yesterday covered only part of the application of this controlling principle. To-day we will take up the handling of payments on account by the customers. This will involve the use of the cash receipts book. It is assumed that the student is already acquainted with the three column cash book, in which one column is for net cash, one for discount on sales, and the third for the full account to be credited to the account named. Draw this form on the blackboard and make the entries in it that were made in the cash receipts book of the exercise which the students have already worked out and upon which we are basing this lesson. It is assumed that at least one entry in this book was made to record a transaction other than receipt of cash from a cus-

tomer. The teacher should have seen to this when he originally assigned the exercise.

Through his acquaintance with the control in yesterday's lesson, the student should now realize the need for posting the individual customer's items in the individual accounts in the accounts receivable ledger. He should further realize the need for posting the total of the column to the Controlling account. The teacher should ask the group if it would be proper to take only the total of the third column and post it to the Accounts Receivable account in the general ledger. The students will probably readily see that such a procedure could not be right, because there are items in that column that are not accounts receivable. What is to be done? Some one may suggest that we pick out the items that are accounts receivable, total them, and post the sum to the Controlling account. This will soon be deemed impractical and some one else will probably suggest that a new column be started, making the cash book a four column book instead of a three column.

The teacher should then go through an exercise with the group involving the use of this new four column book. In this connection he should point out its self-balancing feature and show the students one acceptable way of ruling it up preparatory to posting it.

An exercise involving the use of this new cash book may now be assigned for home

preparation. It is best if this exercise really be a continuation of the exercise assigned on the preceding day so that the customers' accounts will already have been opened and have balances. When the cash book entries are posted the student will find it necessary to find the balance of each customer's account and to add all these together to see if the total equals the balance of the Accounts Receivable account in the general ledger.

Without bothering with the general journal at this time, the teacher may next take up the accounts payable ledger and its control, the Accounts Payable account. These may be introduced much the same as were the accounts receivable ledger and its control, the Accounts Receivable account.

After exercises have been worked out involving sales, purchases, and four column cash receipts and cash payments books and their application to the controlling accounts, the four column journal should be introduced. Some teachers prefer to introduce one special column of this book at the time that the Accounts Receivable account is taught and to teach the other special column when the Accounts Payable account and ledger are taught. It will usually be found, however, that the book will be much easier to handle if introduced as a whole after the students have become used to other controls through the sales, purchases, and cash books. After the four

column general journal is taught, exercises involving the use of all the journals and ledgers should be worked out by the group until all the students are familiar with the changes in these books and with the controlling principle.

We might go on indefinitely suggesting a manner in which various lessons in bookkeeping may be taught. It is not intended, however, that this book be a compilation of lesson plans. We offer the foregoing suggestions merely to illustrate the application of the reflective thinking processes to diverse bookkeeping lessons. May we further point out that these lesson plans, while representing common usage, are not expected to be universally applicable. Situations vary as do individuals. The teacher must plan the lesson for his class in a way that, when taught, will be most likely to result in effective learning.

Problems.

1. Lay out a plan for teaching a bookkeeping lesson, indicating the steps in the reflective thinking process that are to be applied.
2. What steps would you take to promote a considerable amount of reflective thinking in the learning of bookkeeping students?
3. Select five problems from a bookkeeping textbook and, if necessary, reword them in a way to call for the largest amount of reflective thinking.
4. "It is clearly important that the pupil stick

at his problems until satisfactory results are reached if we expect him to acquire the habit of success'' (Chapter reference No. 8, p. 262). How can you accomplish this result through the reflective thinking process?

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Chapter VII

SKILL BUILDING PROCEDURE IN BOOKKEEPING TEACHING

The Nature of Skills.

Skills are responses to particular situations that have become automatic. To be more technical, a skill is a neural bond between response and stimulus that has become so firmly fixed that the one naturally follows the other. Every individual possesses skills, which he has acquired from time to time through his life.

During your early school life you learned to read, to write, and to do simple arithmetic. Those processes have become so fixed that you now use them without giving much thought to their application. They are now skills and you use them as tools. You use your reading skill to gain further knowledge and to keep up with the times; you use your writing skill to jot down notes and to make records; you use your arithmetic skill to figure your bank balance and to account for your expenses. In addition to these skills

you, in various ways, through contact with your friends, your church, your school, and your family, have acquired other skills or habits of reacting to certain situations in a fixed and definite way.

In endeavoring to solve any bookkeeping problem, that is, in applying the reflective thinking process described in the preceding chapter, the student will call into use certain skills which he has already acquired. He reads instructions, he writes, he calculates, he utilizes certain bookkeeping knowledge that he has already learned. Take, for example, the case of the special journals problem used as an illustration in the foregoing chapter. The student, aside from the fundamental process skills (reading, writing, arithmetic), has acquired a skill in using the journal and in recording transactions therein; he has acquired the skill of recognizing the bookkeeping significance of the terms "sales," "purchases," "cash," and many other items. He now is confronted with a problem for which he has no solution; with a stimulus for which he has no ready-made response. He, therefore, by the process of reflective thinking, may reason out a response that will be adequate, and then he should build this response into a skill.

The teacher must always realize that both the reflective thinking process and the skill building process are a vital part of school

work and that no school subject deals entirely with one or entirely with the other. Naturally, the student will encounter problems for which he has no satisfactory solution and which he must solve under the intelligent leadership of the teacher. These problems may be entirely new ones, or they may be problems that he encounters so seldom that he has never developed a solution that has become automatic. Certainly not all responses will, or should, be reduced to fixed skills. If we are faced with a certain stimulus frequently, the response to that stimulus should be made automatic; if we but rarely encounter a certain stimulus, the response will not, and need not, become automatic.

Steps of the Skill Building Process.

Regardless of whether the original solution of the problem is reached through the reflective thinking procedure, through the direct teaching procedure,[1] or through a combination of the two, the steps that are necessary in making that response a skill are the same. These steps are:[2]

1. The situation in which the learner experiences a need to acquire a particular skill in connection with a particular association.

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[1] By the term "direct teaching procedure" is meant the giving of essential information by the teacher.

[2] Lomax, Paul S., "Commercial Teaching Problems," p. 158. New York: Prentice-Hall, Inc.

2. The teacher sets a model of the skill to be learned.

3. The student imitates the model.

4. The student criticizes his own product by checking with the model, having certain considerations in mind.

5. The student drills to fix in his own learning machinery or nervous system a correct and automatic response.

6. The student puts the new skill back into the field of association or to a practical use.

7. The teacher gives periodic tests to determine whether the student is keeping the skill at a satisfactory standard of use.

Illustration of the Skill Building Process.

1. The teacher motivates the skill.—In the first example in the preceding chapter, which suggests a method for teaching special journals largely by the reflective thinking method, a satisfactory solution was finally arrived at. It is now the problem of the teacher to develop certain skills in connection with the use of these special journals. The student must develop the skill of interpreting transactions and knowing in which journal a particular transaction must be entered. For example, when the student is presented with a transaction which involves the sale of goods on account, he should know that the transac-

tion is to be recorded in the sales journal, he should know this without having to think very much about it. He should also know the form of the sales journal, just what information goes in each column, and how to rule and post at the end of the period. All these knowledges must become automatic—become skills.

When a student first studied bookkeeping and was confronted with transactions that involved the sale of goods on account, he had to think out the solution. He reasoned that an asset was increased, therefore, the customer's account was debited; he further reasoned that proprietorship (through income) was increased, therefore, sales must be credited. By the time he takes up the problem of special journals he should have acquired an automatic response when stimulated by such a transaction. By that time he should know, without having to think it out, that the customer is debited and that sales is credited. Now he should also automatically know that the transaction must be recorded in the sales journal, and that date, name, address, terms, and amount must all be placed in the proper columns; that the book must be footed and ruled at the end of the period; that the footing must be marked "sales credit"; and that that footing must be posted to the credit side of the Sales account in the general ledger. The remaining steps of the

skill building process show how these skills may be developed.

2. **The teacher sets the model.**—In order to lay a proper foundation for skill building, the teacher must be certain that the student gets acquainted from the start with the most acceptable form of special journal. Notice, in step 7 of the reflective thinking process, that a form is tried out, and in step 8 that it is verified to see if it works. After the student gets reasonably well acquainted with the use of each journal, he learns the use of the next until he has become acquainted with the sales book, the purchases book, the cash receipts and cash payments book, and the general journal. In order to maintain a whole view knowledge, rather than a piecemeal knowledge, as soon as possible after learning the use of each of these special journals, the student should be required to work out an exercise or two involving the use of all these journals. In order to build a skill (or we might say skills) in their use the teacher will usually again have to take up each one separately. For example, he may take the sales journal and draw the exact form on the blackboard. In other words, he sets the model.

3. **The students imitate the model.**—He will then have the students draw up this exact form on sheets of journal paper, following the form on the board and the same

form in their textbooks. Thus the students imitate the model.

4. The students criticize their own efforts.—The students will then inspect the form that they have drawn, noticing whether they have drawn it neatly and if, in every detail, it is like the form before them. Note that the student thus checks his product with the model with certain points of criticism in mind.

5. The students drill to fix skill.—The students will next drill on making several more copies of the sales journal form in order to develop the ability skillfully to draw up this form.

6. The students make practical application of skill.—Now the teacher has the students make use of this form by having them record entries in it. This step, while it puts the form into its field of use, is also step 2 in developing another skill, namely, the entry skill.

The teacher may first record an entry or two in the form which he has drawn on the board, pointing out the exact manner for recording year, month, and day, customer's name, address, terms, and amount.

He then goes to step 3 in developing the entry skill by requiring the students to record a few entries on one of their best forms. They then (step 4) criticize their work for neatness and accuracy in every detail and

then (step 5) record a few more transactions in one or more of their other forms in order to fix the skill.

The teacher may next start building the footing and ruling skill. He sets the model (step 2) by ruling and footing the form on the board, pointing out the place for the total, for the single and the double lines, and for the "Sales Cr." notation on the line of the total. He may then (step 3) have the students do the same with one of their forms and (step 4) have them examine it critically for neatness and accuracy. The students then (step 5) foot and rule the several forms in which they have already made entries, so as to provide necessary drill in building a footing and ruling skill.

The teacher may then ask the students to complete a whole sales journal, ruling and footing it. The students may still be deficient in one point or another and, after examining their work critically, may find some weakness. They may, consequently, be asked to prepare another or others until they have perfected all their skills. Some teachers do not like to break this skill building problem up into so many small units, but rather prefer to develop at one time the composite skill of handling the whole sales journal, including form skill, entry skill, and footing and ruling skill. With some classes this can be done;

with other classes such a procedure might meet with doubtful success.

The teacher may next develop the skill of posting from the sales journal. He should draw the necessary ledger accounts on the board and post to them, pointing out the precise method. (Most of this skill will have been developed in connection with posting from the journal earlier in the course.) He will particularly have to impress upon the minds of the students the fact that the individual items are debits and that the total is a credit; of course, the reasons for this should be discussed. After the teacher has thus set the model he should (step 3) have the students prepare the necessary accounts on ledger paper and post one of their exercises. They will then (step 4) critically examine their work and note their faults, and next (step 5) drill by preparing other ledgers and posting other exercises to them. This drill should be followed (step 6) by an exercise or two in which the students prepare a sales journal form, make entries in it, foot and rule it, and post it to the ledger.

The teacher will then follow through the same skill building procedure with the purchases book and with the cash book, after which he may have the students work out an exercise involving the use of all the journals and the posting of these to the ledger. After the students have worked out one of these

exercises, they should examine it critically for faults in neatness and detailed accuracy and finally work out another exercise involving the use of all the journals.

By this time usually it can be assumed that the skills are fairly well fixed, and that the students will be able to perform these phases of their work without having to devote much thinking to them. The work of the bookkeeping course should be planned in a series of cycles. If this is done, these journals will come into use again and again (step 7). The teacher must constantly guard against the work being allowed in any way to fall below the standard that has been set up. It may be necessary occasionally to give drills in the application of some skill that has fallen below par in order that it may be brought back to standard.

Teaching the Working Sheet.

Teachers are finding that the use of a simple working sheet, very early in the course, aids the students in understanding the connection between the trial balance and the financial statements. The working sheet may well be introduced (regardless of the approach) during the development of the first cycle. In every approach the student will ultimately come to the position of having taken a trial balance and of being ready to make statements. If the "balance sheet" ap-

proach has been used, of course the form of these statements will have been taught at the very beginning of the course and will merely have to be reviewed at this time. If either the "journal" or the "ledger" method of approach has been used, the forms of the profit and loss statements and the balance sheet will have to be taught at this time. These should be taught as arithmetical problems by the reflective thinking procedure.

When the student is fairly well acquainted with these statements, it may be pointed out to him that the information used in them, with the exception of the merchandise inventory, is derived from the trial balance. The working sheet may be introduced at this time, the student having been made conscious of a situation where it is needed. (This constitutes step 1 in the skill building process.) While a certain amount of reflective thinking may be expected in connection with learning the working sheet, it will, for the most part, have to be introduced by the direct-teaching method. In this problem, then (step 2), the teacher will draw on the board a simple form of the working sheet, allowing two columns for the trial balance, two for the profit and loss statement, and two for the balance sheet.

The teacher may then instruct the students to draw up a similar form on suitable paper (step 3). He may then copy a simple

trial balance into his blackboard form and request the students to copy the same trial balance into their forms and rule them properly.

The teacher may now take the accounts, one by one, and ask the students to classify each account and to tell in which statement it should be placed. It should be pointed out to them that every account that appears in the trial balance is used once and only once in one of the statements. The students should next be asked if there is anything in addition to the items already considered that is needed to complete the statements. Some one will probably suggest that the merchandise inventory has to be considered. The group should then be instructed how to handle this item in the working sheet. The reason for so handling should be discussed. Next the students should be asked if they see any way of ascertaining the net profit. Usually some student will see that, if the total of the cost column is deducted from the total of the income column, the difference will be the net profit. The group should then be instructed just how to place the net profit and how to rule up the sheet. The teacher should next repeat the procedure, having the students complete the form that they have started, doing it step by step, and discussing with the teacher the reasons for each step.

After this is done, the students should be required to examine the work they have done, noting any discrepancies that exist between their forms and the model on the blackboard (step 4).

The student should be given several simple trial balances and asked to complete working sheets for them (step 5).

After the group, through sufficient use, is able skillfully to make up the working sheet, they should be requested to set up the statements in proper form, taking their information from the working sheet. The teacher should work out on the blackboard with the students a set of statements based on the information in the working sheet model (step 6).

The number of these exercises that will have to be worked out at this time in order to fix this skill will depend upon the general ability of the class; a fair estimate would probably be five or six. The bookkeeping work should be planned so as to call this skill into use from time to time (step 7). Whenever the skill is used the teacher should be sure that the workmanship standard originally set up is constantly maintained.

Problems.

1. Enumerate all the important skills that should be built in bookkeeping learning.

2. Select one of these important skills and prepare a plan for developing a lesson designed to build that skill, definitely pointing out the steps in the procedure.

3. Where and how are the laws of learning observed in the two illustrations suggested in this chapter?

4. Even in a lesson designed to develop skills, the students may be expected to utilize a certain amount of reflective thinking. Where is reflective thinking called for in the two illustrations in this chapter? To what degree and in what respect are the reflective thinking procedures and the skill building procedures related?

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Chapter VIII

CHARACTER BUILDING IN BOOKKEEPING TEACHING[1]

The Nature of Character Building.

The character of an individual is determined by his innate tendencies plus modifications of these tendencies caused by environmental forces. It has been suggested in a preceding chapter (p. 76) that it is the function of all education to change, to modify, or to adjust the original nature of the individual to the end that he become a better member of society; that is, that he possess those qualities that society looks upon as being most acceptable. Bookkeeping teaching has no more noble objective than that of training the ethical character of the students who study the subject.

In order to reach that objective it is essential that our students have a knowledge of what good character is plus an intense desire to possess it. This means that an acquaint-

[1] We are indebted to W. W. Charters for many of the points of view expressed in this chapter. See his reference at the end of this chapter.

ance with the necessary traits of character should be made in order that their ideals may be attained, and that a proper attitude toward these character traits and ideals may be developed. Finally, these desirable character traits should, so far as possible, be reduced to habits.

Perhaps we should define our terms. By the term "ideal" we mean a character trait that is set up as a definite objective to be striven for. We may say that honesty is a very desirable character trait. If an individual positively aims to be honest at all times, then he has set up "honesty" as one of his ideals.

By "character traits" we mean certain widely recognized qualities, or, to be more technical, certain fixed ways of reacting that an individual may or may not possess. Honesty, as mentioned above, is a character trait; independence, justice, reliability, self-control are a few others.

By "attitude" we mean the *feeling* that an individual has toward these ideals and character traits. He may know the meaning of the ideal "honesty," he may *know* that to attain this ideal of honesty he must constantly practice honesty; that is, he must always be truthful, he must not take things that do not belong to him, etc. If he does not have the right attitude toward this ideal he may not practice honesty, or may not

practice it to the degree that he should; he may or may not take the attitude that honesty is the best policy, that it does or does not pay to be truthful at all times, or that one can or cannot get along better by appropriating things that do not belong to him. In order that any character training be of value, it is absolutely essential that correct attitudes toward ideals be established as well as a knowledge of what these ideals really are.

We use "habit" in its usual sense. Habit is a fixed way of reacting to definite stimuli. If an individual is to attain the ideals he has set for himself, the character traits that will help him to attain that ideal must for the most part be reduced to habit. He must habitually tell the truth, without hesitating to decide whether he will be truthful. He must return things he finds as a matter of habit, without first pondering as to whether it is better to return these things or to keep them for himself.

Which Character Traits and Ideals Shall We Develop?

Perhaps we should ask, Which character traits *can* we develop? The field is broad; compilations of character traits have been made by various individuals and organizations. These vary from Franklin's thirteen

virtues[2] to Stephens College's two hundred and twenty-two qualities,[3] which they divided into thirty-one families and finally into ten definite character traits. This wide variation is largely due to the fact that the nomenclature of character traits is by no means standardized. One person, when speaking of courtesy, may mean just politeness; another individual may include in his meaning of the term all such qualities as politeness, refinement, good breeding, gentleness, etc.

There are several ways of determining what the most desirable character traits are: (1) an individual may simply list the character traits that he personally believes are the most desirable ones; (2) a group of individuals may work together and compile what they jointly believe to be the best character traits; (3) a study may be made to find out which are the character traits most used by a given group of individuals; or (4) a study may be made to find out what the duties of a given group of people are and what character traits are essential to the proper performance of these duties.

In other words, the bookkeeping teacher may (1) simply list all the desirable traits he knows and then proceed to inculcate in his students the proper knowledges, atti-

[2] Davidson, H. A., Editor, "Autobiography of Benjamin Franklin," p. 140.

[3] Code of Stephens College, Columbia, Missouri.

tudes, and habits pertaining to these traits; or (2) he may have a group of bookkeeping teachers, or a number of advanced students, or a group of office managers work with him in compiling a set of traits which they jointly agree to be the best for bookkeeping students; or (3) the bookkeeping teacher may endeavor to analyze the character traits that have meant success or failure on the job and compile a list of the traits that seemed to make for success and a list that seemed to lead to failure; or (4) he may search out a number of people who are working at bookkeeping occupations, analyze the duties of these people, and determine the traits that are believed to be of utmost importance in the successful performance of these duties.

The fourth of these methods is the most objective and probably the best if properly applied, but all have some value in a complete analysis of traits. However, care must be taken not to overemphasize the importance of the vocational significance of the traits. To be sure, bookkeeping is primarily vocational and our attention should be constantly focused on the objective of making the student vocationally efficient. However, education has for its purpose the preparing of students for the whole of life. While we may emphasize the character traits that are vocationally important, we must remember that the character training received in school

must function in the lives of the students, not only while they are at work, but also while they are spending their time off the job.

In the absence of any exhaustive study made to determine the character traits most desirable for the bookkeeper to possess, let us adopt the following Denver list of thirty ideals underlying the major activities of life:

1. Appreciation.
2. Adaptability.
3. Courtesy.
4. Courage.
5. Coöperation.
6. Desire for improvement.
7. Foresight.
8. Generosity.
9. Good health.
10. Gratitude.
11. Honesty.
12. Happiness.
13. Industry.
14. Initiative.
15. Judgment.
16. Morality.
17. Neatness.
18. Open-mindedness.
19. Punctuality.
20. Responsibility.
21. Reverence.
22. Self-judgment.
23. Self-control.
24. Sympathy.
25. Sociability.
26. Service to society.
27. Tact.
28. Thoroughness.
29. Thrift.
30. Unselfishness.

Some teachers may object to a list so long as this and may feel that all these ideals cannot be touched upon in connection with the bookkeeping lesson. Possibly some of them cannot be; but for the most part all of them, to some extent, are related to the problems

of the business man as reflected through the study of bookkeeping. It will be generally agreed that the average office worker should possess most of these traits as ideals in order to be most successful. It is important to keep in mind the distinction that a character trait is a *quality of conduct* which the student should possess, while the ideal is *his earnest desire* to claim the character trait as his own. A person may conduct himself in an honest way, and in accordance with his own ideal of honesty which he earnestly holds to as a standard.

How May We Teach These Character Traits and Ideals?

There are three desirable methods of teaching character traits and ideals. At the outset it must be realized that the important thing about all character education is that education must actually function in the life of the student. He must experience the thrill of being courteous and like it and thereby get the proper point of view, the proper attitude, toward the character trait "courtesy" and claim it as his own ideal of conduct.

It is all very well for a man or a woman to talk to a group of students about the value of courtesy. The speaker may hold the students in rapt attention for several minutes and very interestingly go into a detailed

discussion of the ways of being courteous; but if, at the end of his talk, the students proceed entirely to disregard it and go on acting discourteously just as they have been doing, the talk has been something closely allied to a total loss.

We may discard at the outset the lecture method. This method has been discarded in most schools below college grade and is being discarded to some extent in colleges. Certainly it is as useless in teaching character traits as it is in teaching algebra, or shorthand, or bookkeeping. You cannot teach students the value of honesty, neatness, initiative, self-control, or any other desirable character trait by just talking to them about the trait. This knowledge must function in their everyday lives if it is to be of value.

The three most useful methods of teaching character traits and ideals are (1) the individual method, (2) the indirect method, and (3) the direct method.

The first of these methods is used in dealing with individual cases. The teacher may find that a student copied his home work or may catch him trying to copy in an examination. This is a case to be dealt with individually. The teacher will probably have the student come in for a conference and talk the matter over with him, pointing out the advantages that accrue to one who depends

entirely upon himself to do his own work. He will try to get the student to see it from that point of view and will follow up the interview with a careful check on the student's activities, making certain thereby that the student is adhering to this very desirable character trait, which the teacher is trying to inculcate in him as an ideal. Other cases to be handled individually may be those arising out of instances of discourtesy, lack of industry, or lack of self-control. In handling these cases the principle of individual differences must be adhered to. Each student must be handled in the way that best fits the whole integrated personality of that individual. In extreme cases it may be advisable for the teacher to study back into the case and find out, if possible, what, if any, hereditary or environmental forces may be causing the trouble and take steps to deal with the case in the light of his findings.

The second or indirect method of teaching character traits and ideals is undoubtedly the most acceptable one and the one that best fits into the program of bookkeeping teaching. Under this method character traits are concomitantly learned and developed along with bookkeeping principles, that is, the traits are studied incidentally to the main theme of the course. In almost every bookkeeping lesson we are dealing with problems that involve some character trait; the subject

is bulging full of such possibilities. The great difficulty is that, when things are expected to be incidental, they are likely to be accidental, and frequently are in no way effective. While almost every lesson is full of character training possibilities, the most of these will not be brought out if the teacher does not carefully analyze the lesson before going to class and plan just which character traits can best be considered *as ideals of conduct* in conjunction with the students learning that lesson.

That character trait development may be carried on most effectively, the teacher should select, from all the situations in the lesson, the character traits that may be emphasized. These situations should be classified according to the character traits to which they are related. For example, let us take the bookkeeping lesson in which we introduce the profit and loss statement. In conjunction with this lesson, there are situations that require neatness, honesty, and courtesy, as in almost any bookkeeping lesson. In this particular lesson, there are also situations that permit a discussion of service to society, of thrift, and of thoroughness. These are just a few character traits that this particular lesson touches upon. Analyzing situations should not be permitted to become too burdensome. The best plan is constantly to jot down on the plan sheet vari-

ous situations that call for certain character trait reactions and also various situations in conjunction with which a discussion of certain character traits may be advisable. As time goes on this list will grow until it is complete. Even though such a complete list of situations is compiled, the teacher should not try to stress, in any one class period, all the character traits involved in the lesson. A few, perhaps only one, situation, which deals with very important character traits, should be used in any one lesson. As time goes on the students will begin to develop desirable habits of reacting to some situations, with the result that these traits will not need much attention, and our attention may be diverted to others. *The important thing is that we must have a plan.* While the indirect method of developing desirable character traits is admittedly the best one, its greatest weakness is the lack of system that is all too likely to attend it. Some lessons deal with some traits, some with others; some lessons are replete with character trait situations, others have but few of such situations. The teacher cannot permit himself to hope to do a good job of character trait formation unless he definitely knows the potentialities of each lesson.

The third or direct method of instruction is that instruction which deals directly with the traits themselves. While the indirect

method of instruction is by far the best for use in connection with bookkeeping teaching, the direct method may be effectively used in many instances. We may hope to develop indirectly a proper knowledge of what we mean by honesty, and a correct attitude toward honesty. However, this may not come about as a by-product of our regular teaching. It may become necessary to do some direct teaching by starting a discussion of what is meant by honesty, of whether we should be honest or not, and what a number of situations are in which honesty is called for.

Reason for Developing Character Traits and Ideals.

In connection with the development of character traits, the questions of what to do *for* those who develop good traits, and what to do *to* those who not only fail to develop good traits, but, on the contrary, develop bad ones always arise. With the development of any admirable character trait there usually comes a feeling of personal satisfaction. That satisfaction may spring from the thought that some one else is made more happy, that future benefits will be received, or that the group or some highly regarded individual now looks upon you with favor. Against these "awards," if we may term

them such, may be set off such penalties as a feeling of unhappiness that one may suffer after having acted in a way that does not reflect high ideals; or a feeling that his future may be blighted, or that he is no longer in good standing with the group.

The emotional side of an individual plays an important part in character formation, and it is through being intimately acquainted with this side of each individual student that the teacher is likely most effectively to build desirable ideals in his students. As a general rule, a person's feelings or ideals should be enough to control his activities. Sometimes actual prizes are offered for a good show of character traits and definite penalties promised to those who fail to develop proper traits. These methods may be all right, but we doubt the permanency or the sincerity of character traits formed (or seemingly formed) with the aim of receiving a prize or of avoiding a physical punishment.

The Power of Suggestion and Example.

No discussion of character trait formation would be complete without mentioning the power of suggestion and example. Both of these may be considered suggestion; the one a definitely made oral suggestion, the other, an implied suggestion. Frequently an implied suggestion (or example) will have much more influence on the individual wit-

nessing the example. Direct suggestion, however, is sometimes necessary. In order that any suggestion function as a force in character formation, the individuals to whom this suggestion is made must have confidence in the one making the suggestion; such a suggestion must be made when there are no opposing situations present that will lessen its effect; and students must be taught not to follow a suggestion blindly but to accept it only after testing its value by reason. If the student does not apply reason to the acceptance of a suggestion, he will tend to accept all suggestions whether good or bad.

The teacher should be certain that his example offers the right type of suggestion. When it is advisable, this suggestion may be definitely pointed out to the students, so that they are sure to note it. A bookkeeping teacher cannot expect to develop neatness as a character trait if he dresses in a slovenly manner, has his desk in a cluttered condition, and permits his board work to be untidy. If he expects his students to develop good traits, he must exemplify them by his own conduct.

Functional Ideals.

One of the great problems involved in the teaching of ideals is that of making these ideals function in the life of the individual.

It is up to the teacher to make definite assignments that require the exemplification of certain character traits and then to check to be certain that the proper traits have been in operation. If an ideal is to become a permanent part of the student's emotional make-up, the character trait involved must be reduced to habit.

Measurement of Character Building.

One difficult part of character education at the present time is the fact that its results seem almost impossible to measure. A few traits may be measured; but for the most part it is hard to find out by any process now known whether a student, as a result of character instruction, is any more honest than he has always been, whether he is more sociable, whether he has better judgment, or whether he has a better sense of justice. Even when we do think that we have measured some of these traits, we usually find that the measurement is in terms of school situations and that the seemingly developed character traits may function very seldom or not at all outside the school. The probability is that, in the future, acceptable methods of measuring character trait progress will be worked out. Its lack, at the present time, may be due, in part, to the fact that we have not yet decided what character

traits should be developed and likewise measured; also, that most character traits are complex things and exist in varying degrees in different individuals. We may say that a child is very dependable. Do we mean that he is always present and always has his home work prepared, or do we mean that he also keeps appointments, does his work as efficiently as he can, goes to the trouble of catching up loose ends, is always consistent in his statements (truthful), always does his duty as he sees it, and has stick-to-it-iveness?

As Charters says, "We are not yet able to define traits with such objectivity that different judges can be relied upon to give the same estimate of the amount possessed by any individual but the field of trait measurement is an extremely fascinating and fertile one and it is to be hoped that in the near future we shall have increasingly accurate measures of the more fundamental traits of personality and character. In the meantime teachers and administrators can use with increasing confidence the simpler and less accurate methods of measurement now in common use in educational practice."[4]

Problems.

1. Formulate a list of character traits which you think the bookkeeping teacher should endeavor to develop in his students.

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[4] Charters, W. W., "Teaching of Ideals," p. 335.

2. Then list for each character trait three bookkeeping learning situations in which the trait should be developed.

3. Some individuals argue that bookkeeping teachers should teach bookkeeping and not bother with such phases of education as character training, citizenship, etc. Have these individuals the right conception of bookkeeping teaching? Why?

4. Plan a lesson for the teaching of some phase of bookkeeping and indicate which character traits you hope at least partially to develop in connection with the lesson. Point out just how you plan to do this.

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Chapter IX

DIFFERENT APPROACHES IN BOOKKEEPING TEACHING

Has the "approach" in bookkeeping teaching been receiving too great an emphasis? Probably no phase of our work has been more discussed during the last few years than this particular problem. We find writers and speakers proposing many methods: some feel that the *journal method* of approach is proper; many choose the *ledger method* as the best; and others advocate some form of the *balance sheet method* as the superior approach. Who is right, or are they all right?

It is difficult to say which of these methods of approach is best; in fact, it is altogether probable that no one method of approach is *the* best method. The type of student to be taught, the conditions under which learning is to take place, the aims of the course, and the training and adaptability of the teacher must all be considered. When these factors are properly weighed, the approach used will be that method which best suits the whole situation. Unquestionably very fine

and effective teaching is being done by teachers who use one method of approach; and, again, equally effective work is being done by those who use another method.

The Journal Method of Approach.

Let us consider some of the approaches that are most widely used. The oldest is probably the "journal" method. In using any method, the teacher usually begins by discussing business in general with the class or group and leads the lesson into a discussion of the reasons why people go into business. The students may suggest that men enter business to make money, or because they feel that they can render a service, or because they wish to be independent, or because they would rather work for themselves than for someone else.

The next point of discussion is the type of business. Perhaps some student's father owns a grocery store and makes his profit by buying goods and selling them at a higher price; another student's father may own a barber shop and make his profit by rendering a service (hair cutting or shaving). Other students will suggest other lines of business, such as banking, insurance, and manufacturing, each making a profit from one source or another. These and other suggestions will be made until several cases

within the field of knowledge and experience of the child have been talked about.

The third point will be a question of books. Should the business man keep books? The student will agree that he should, that these books should furnish a record of what has taken place in the business, that they should tell the business man how much profit he is making, and that they should tell him how much he is worth.

At this point, the teacher who is using the journal method of approach might suggest that the discussion be confined to one type of business, and, in as much as most of the students are acquainted with the grocery business, that they think of it and its operation. What does the grocer do? He buys goods at one price and sells them at a higher price. Have we any name for this operation of buying and selling? Some student will suggest "deal"; some other student will suggest "trade"; and others will suggest "sale" for the selling operation and "purchase" for the buying operation. The teacher will probably have to tell them that the bookkeeping term usually used is "transaction." Now for a definition of the term. When the grocer sells a loaf of bread to your mother what actually takes place? Mother gives the grocer 12¢ and the grocer gives her the loaf of bread. In other words, an exchange takes place; they exchange the bread and the 12¢.

Is the exchange equal? Yes, the bread presumably is worth 12¢; therefore, they have exchanged an equal value for an equal value. May we say, then, that a transaction is an exchange of equal values? Yes, that seems correct.

It is a good plan to run through a few examples noting that this rule holds true. In connection with these examples, it is advisable that two columns be drawn on the board and that one be headed "In" or "Received" and the other headed "Out" or "Given." In each column the teacher should list the things actually received or actually given, confining the transactions for the time being to cash purchases and cash sales. We may now introduce the terms "debit" and "credit." The student should not be permitted to be alarmed by these terms. He should be told that we always put down the things received on the left side and that we call that the "debit" side; likewise we always put down the things given on the right side and call that the "credit" side. An exercise or two, each involving eight or ten transactions, may be assigned at this point. The students should be asked to draw, on plain paper, a form similar to the form which the teacher has drawn on the blackboard and should be asked to place the thing received or debited in the proper column and likewise to place the thing given or credited in the

other column. This will help to develop debit and credit concepts.

The next lesson should begin with a brief review of what has gone on before, and this should be followed by the introduction of the journal, still confining the transactions to the purchase and sale of goods for cash. After a knowledge of the journal has been firmly established through practice involving its use, other types of transactions may be introduced, such as the payment of rent, clerk hire, and gas and electric bills. Next may be introduced the sale and purchase of goods on account, then the purchase of fixtures for the store or office, and finally the investment of cash.

After the student is thoroughly capable of using the journal, he may be taught the use of the ledger and how to post to it; next how to make a trial balance; then simple forms of the working sheet, profit and loss statement, and the balance sheet; and, finally, closing entries and closing the ledger, thus completing the bookkeeping cycle. During the development of these bookkeeping practices and forms, exercises involving the application of these practices and forms should be assigned; when the cycle is complete, a short set without vouchers which will involve the application of all these learned principles should be worked out. From this point on the work will proceed in much the same

fashion, regardless of which approach has been used.

While this method of approach seems to be going out of general use, it is not without its value. When properly applied, it certainly adheres to the laws of learning. It starts with child experience, and leads him into a discussion of business transactions and to the recording of these transactions in a manner that is easy for him to grasp.

Another argument used in its favor is that it is chronological and, therefore, logical. This, however, does not necessarily follow. In fact, many who oppose this system maintain that it is not logical—that the account approach is the logical one. History seems to support this later group, since the oldest bookkeeping systems used no journal but were simply made up of accounts.

One of the greatest disadvantages of this system is that it consists of too much piecemeal learning in which the student may fail to learn the relationships that exist among the different steps of the bookkeeping process. The student is thus required to accept too much on faith. This is possibly true, but the condition is greatly magnified when the approach is not properly applied. Too often we find a teacher telling the student to study the first chapter and to learn all the rules given. This is followed by the students being plunged immediately into the use of the

journal, where he is expected to apply all the rules he is supposed to have learned to the recording of transactions involving several different accounts. This method, thus misused, results in learning merely by rote and hence is psychologically unsound; but, unfortunately, it is the approach that many of the opponents of the "journal method" have in mind when they launch their condemnation.

Another objection that is raised to the journal method is that it does not give the student a broad view of business from the very start. When properly used, it will give the student a much broader view than some realize, but probably there are other methods that do this more effectively. As pointed out above, many conditions must be considered when deciding what approach should be used, and in all probability we can still find numerous situations where the journal method of approach best lends itself to the conditions. While we do not advocate only individual instruction (see Chapter XI), there are evening and day schools where that type of instruction is about the only thing that can be used. This is particularly true in schools where students are permitted to enter at any time, as in many private commercial schools. Many teachers are not sure which method of approach to use under such

circumstances; others are firmly convinced that the journal method best fits this situation.

The Ledger Method of Approach.

A second method of approach that is used extensively in the schools throughout the country is the "account" or "ledger" method. This method, like any other, begins with a general discussion of business. All learning must proceed from the known to the unknown. All students will have some knowledge of business as it is conducted all about them. Some of their parents probably own shops; at any rate, all of the students will have had some experience in trading at stores. When asked to think about the situation, they will have some ideas of business. This furnishes a basis for proceeding. It is then advisable to direct the attention of the students to some common type of business, say, as suggested before, to the grocery business.

In introducing bookkeeping by the account method, it is usually best to discuss just one account at a time. We may now tie up with personal experience. Most students have some money. If they are planning to keep records at all, they will probably keep a record of their cash. Let them suggest a method for doing this. Some one will surely

suggest that we use a book of some kind and list all money received on one page and all money given, or paid out, on another page. How do we show how much money we should have? By adding the amounts on the two pages and then subtracting the smaller amount from the larger one. Try it on the blackboard; make a column for all cash received and another for all cash paid out, then have the students suggest some items which could be items of cash that they themselves might receive or pay out. They will doubtless suggest that they receive money from their employer (if they work after school) or from their parents; they will also suggest that they pay out money for lunches, movies, articles of clothing, etc. After a few examples of this nature, the teacher may refer back to the grocery business and have the students suggest items of cash which the grocer might receive and which he might pay out.

After this, the teacher may introduce the term "account." All he needs to do is to draw the necessary lines to make the two columns which he has on the board into a T account and to write the word "cash" at the top where it belongs. The student may simply be told that an account is a grouping of items; sales, purchases, cash items, that are alike or so closely related that they naturally belong together. It is assumed

that the teacher, all along, has been listing the cash received items in the left column and the cash paid out items in the right column. If this has been done, when he makes the two columns into an account they are both in their correct places. The teacher may now call for some discussion on this point. Is there any reason why these items should be thus arranged, or may we list the payments on the left and the receipts on the right? Some students will probably suggest that, in as much as the receipts are always larger than the payments, they should be placed on the left side; but most students will be likely to feel that there is no real reason why they should be placed just as they are. The teacher should suggest at this point that, while either side could be used for either group of items, we usually think of bookkeeping as being a system, and if we are going to be systematic we should agree to have one way to do a thing. Hence, we shall adopt the procedure used by bookkeepers and place cash received on the left and cash payments on the right.

The terms "debit" and "credit" may next be introduced. No mystery should be attached to these terms. The student should be asked to give a name to each of the two sides of the account. Some one will usually suggest that we call the left side the receipts side and the right side the payments side.

Some one else will possibly suggest that we simply call them the left side and the right side. Here the teacher should tell the students that bookkeepers usually call the left side the debit side and the right side the credit side and that they, as prospective bookkeepers, should adopt these terms. A few exercises, involving these principles, should be discussed orally at this point, and then the students should be asked to work out a few others on plain paper in T account form.

The next lesson should begin with a brief review of the work of the preceding lesson and a discussion of the exercises that were assigned. Here, of course, is an opportunity to clear up points that have not been fully understood. It may even be advisable to work out another exercise or two involving the points already taught before proceeding to the next step.

The next step is the introduction of the Sales account and the Purchases account. The connection should be made to the preceding lesson. It should be pointed out that each of the items listed in yesterday's work represented business transactions and the term "business transaction" should be established as meaning the exchange of equal values. It should now be noted by the class that, when we entered cash received, we failed to enter the thing we parted with for

that cash; likewise, when we entered cash paid out, we failed to record the thing we received. The attention of the group should, for the time being, be confined to buying and selling goods for cash. If we buy goods for cash we will receive goods and pay out cash. How should we record this transaction? We know that the cash paid out should go on the credit side of the Cash account. To record the goods coming in, we will have to start a new account for goods bought or purchases and debit that account for the goods received. The Sales account should be introduced the same way. Some student may raise a question about the necessity of having two accounts for goods and only one account for cash. This can be cleared up readily by pointing out that goods come in at one value and go out at another value, while cash always has the same value.

After these accounts have been developed, the trial balance may be introduced to show the student the absolute necessity of recording a debit and a credit for every business transaction.

After the purpose of the trial balance is fixed in the minds of the students, it is advisable to introduce more accounts, such as the Expense account, Store Fixtures account, Office Fixtures account, and accounts for customers and creditors as well as for capital. The journal may be next introduced and the

student shown the advisability of having a book in which every transaction is recorded as it occurs. He will also learn how to post to the ledger and will be required to take a trial balance. Next, simple forms of the working sheet, profit and loss statement, and of the balance sheet should be introduced, and these should be followed by closing entries, closing the ledger, and taking a post closing trial balance, thus completing the bookkeeping cycle as soon as possible. Whatever method of approach is used, the teacher should endeavor to cover the complete cycle from books of original entry to the post closing trial balance as soon as possible; this gives the student that "whole" view of the work that is so important to effective learning.

It is felt, by the enthusiast for this approach, that it is more natural than the journal method; that the account should be taught first because it is the fundamental notion of bookkeeping; that it proceeds direct from the student's experience; and that it requires the student to accept less on faith. Those who oppose it claim that we teach the student (in this approach) to make entries in ledger accounts and later inform him that he must not do this first but rather that he must first record his work in a book of original entry. It does seem that they

have a fair argument; for we all agree that nothing should be taught that later must be untaught; that nothing should be learned that later must be unlearned. But it seems that, when the situation is carefully analyzed, this argument loses some of its force. The teacher does teach the student to enter direct in the ledger, but within a few lessons points out the need of a place first to record the transaction as a whole and then to transfer it to the ledger. Posting, then, takes the place of what was originally the first operation. We now simply point out the need for smoothing the way, for placing the journal step ahead of the ledger step, which we have been using as our approach.

Historically the account method finds some support. The oldest bookkeeping records were made by recording transactions directly into accounts; consequently, a journal or other book of original entry was never used. Many who are interested in this problem of approach still maintain that the natural procedure for one who has no bookkeeping training to follow is to make accountlike records and to use no book of original entry.

Fundamentally there is comparatively little difference between the journal method of approach and the account or ledger method of approach, provided they are skillfully handled by a capable teacher. With the

changing aims of bookkeeping teaching and with the present day attempt to treat bookkeeping as a science rather than as an art, there is a question in the minds of many whether either of these methods is adequate, and if not, whether it is advisable to adopt a different method—a method with a broader viewpoint. Many have reached the conclusion that these approaches are inadequate, and, instead of using them, are using some form of the newer method—the balance sheet approach.

The Balance Sheet Method of Approach.[1]

Much has been said during the last five or six years about the balance sheet approach. Its boosters seem to feel that it is the long looked for panacea for the ills of bookkeeping teaching. Its opponents, on the other hand, frequently argue that it is too technical; that it is beyond the comprehension of ninth or tenth year students; that the balance sheet may be all right as a point of departure in the study of accounting in college, but that it has no place as an approach to the learning of bookkeeping in the secondary school. Both cannot be right; possibly both are wrong.

A number of those who argue against the

[1] All textbooks that claim to have the balance sheet approach are not equally effective in its proper use, and they represent many variations of the method.

use of the balance sheet approach possibly have in mind a too technical procedure. If, when we consider this approach, we think in terms of the formal type of balance sheet that is usually submitted by an accountant, of course it is too technical. We could not hope to plunge a group of high school youngsters into such a seemingly involved mass and expect them to learn much about it. It would be beyond them, unquestionably; they have no knowledge on which to base such learning; there is probably no tie-up between such a statement and their life experience; there is no point of departure.

The balance sheet approach does not necessarily involve such a highly technical procedure, but many are frightened off by the term "balance sheet approach." In using either the journal, or the ledger, approach, we aim particularly to give the student a knowledge of how to record transactions; we are particularly interested in his ability to handle debits and credits, in his power to "keep" the books and to take a trial balance. We, of course, teach statement and closing work, but our emphasis, at first anyway, and frequently throughout the course, is constantly on the requirement that things balance—that debits equal credits.

In using the balance sheet approach our emphasis is likely to be different. We are trying, by this method, to give the student a

broader view of bookkeeping and of its relation to business as a whole. While we are interested in transactions and in debits and credits, our interest lies particularly in the manner in which these things affect proprietorship or capital.

This approach need not be at all complicated. When starting the first lesson, a general discussion of business and its purposes should be carried on by the class or the group under the leadership of the teacher just as in any approach. The question of the advisability of keeping books also should be talked over, bringing out the reasons for doing such work. These reasons (as mentioned before in this chapter) are that the books should give the owner a complete record of what has taken place in his business, and should tell him how much he has made and how much he is worth.

The next step to take when we use the balance sheet approach is to make the "how much he is worth" element the point of departure. Talk of it in terms of the students themselves and their experiences. When the students are asked what we mean by the expression, someone will suggest that we mean what a man has. At first, someone will say how much money he has; but when the class is asked if that is all, some of the group will suggest that we should also include his

house, his car, his furniture, in fact, everything that he owns.

One of the students might then be asked about his own worth. List the items on the blackboard. He will have some cash, his clothing, and he may own a radio, a bicycle, or skates. Total up the values that he attaches to these things to determine the total of what he owns. The term "assets" may here be introduced, the student being told that it is the term used by business people to designate things owned. The next question might be, Do you entirely own all these things, or do you owe something on some of them? Perhaps he still owes $10 on the radio, or possibly a few dollars on the bicycle. List these and total them, thereby determining the total amount owed. The term "liability" may now be introduced, the student being told that it is the term used by business people to designate things owed. The next thing is to find how much the student is worth. Obviously, he is worth the difference between the value of the things he owns and the amount he owes. If the things owned, or assets, amount to $50, and the things owed, or liabilities, amount to $10, his worth (net worth), or ownership, amounts to $40.

It is advisable to discuss a few similar cases with the students, listing assets and liabilities on the board and determining the

ownership, or net worth, in each case. The students should then be asked to prepare a list of their own assets and liabilities and to calculate their own net worth.

The next lesson will proceed from this point. After briefly reviewing the work up to this point, the student's attention should be directed to a business (preferably some particular local business), and a discussion of the business man's assets and liabilities should follow. The students will suggest that the business man (say he is a near-by grocer) owns cash, owns merchandise, owns scales and counters, owns a delivery truck, owns the building that he occupies.

Suitable account titles should be decided upon and these items should be listed on the blackboard as the grocer's assets. Can we also assume that the grocer owes something? Probably he does. He may not have paid for all the goods that he has purchased; he may owe something for his truck. These we may list on the board as his liabilities, and, then, after totaling them, we can calculate the amount of the grocer's net worth. At this point the term "capital" or "proprietorship" may be introduced.

More exercises of the same nature should be worked out by the group, firmly establishing in the minds of the students the fact that the total assets minus the total liabilities equal the capital or proprietorship. The

form of the balance sheet may next be introduced; either the report form or the account form may be used, but not both at this time. The form should be very simple and the proper heading should be taught. In conjunction with the work of making up the balance sheet, assets and liabilities in general should be discussed; some particular transactions may be talked about and the effect that they have on assets pointed out, but no record work should be attempted at this time.

The next step is to lead the discussion into the question of variation of assets, liabilities, and proprietorship. Take the grocer's business again. Frame a balance sheet for some given date and ask the students if they think that the balance sheet would be the same, in every detail, a month later. Usually they will think not. Then frame a balance sheet as it might possibly appear a month later, showing changes in several items including proprietorship. (It is best to have proprietorship show an increase.) The student should be asked to account for these changes, especially in proprietorship. What does it signify if the proprietor was worth $5000 on August 31 and was worth $5500 on September 30? He is worth more, therefore, he must have made a profit. How was this profit probably made? Mostly by selling goods at a price higher than he paid for them. A simple (very simple) profit and

loss statement may be introduced which will account for this difference in proprietorship.

After these points are firmly established by practice and further discussion, the necessary ledger accounts may be taught, and these may be followed by a trial balance. In teaching the ledger accounts, rules for debiting and crediting must be introduced. The terms "debit for value received" and "credit for value parted with" may well be discarded, and, instead, the student should be taught to note the types of accounts that are used and the ones that are affected by any given transaction. By doing this, he will be able to reason out which accounts should be debited and which should be credited, and, through this reasoning, he will be able to establish the proper rules (given below) for debiting and crediting.

Debit:

1. Increase of asset.
2. Decrease of liability.
3. Decrease of proprietorship (includes increase of expense or cost).

Credit:

1. Decrease of asset.
2. Increase of liability.
3. Increase of proprietorship (includes increase of income).

After the ledger accounts and the trial balance are established, the journal may be in-

troduced and the student taught to post to the ledger. Of course, a trial balance will be taken; and then, to show how the accounts needed in both statements are taken from the trial balance, a simple form of working sheet may be introduced. The student may next be expected to make up a profit and loss statement and a balance sheet. Finally, closing entries, closing the ledger, and the post closing trial balance should be taught, thus completing our bookkeeping cycle.

The outstanding advantages of the balance sheet method of approach are that it gives the student a broader view of business and the application of bookkeeping to it; that those who leave school early in the course will be to some extent more familiar with the language of business; that the "why" of things is likely to receive a greater emphasis than it does in other approaches; and that, consequently, it seems more effectively to develop business reasoning.

Many other advantages are frequently attributed to the balance sheet approach. In all probability there are others. Too frequently, however, the enthusiast for this approach attributes to it advantages that are the result of good teaching rather than of the use of any particular approach.

The major disadvantage of this approach is that it does not lend itself particularly well to instruction by the so-called individual

method. Fortunately, however, only a comparatively few schools are using this method. Even those schools that permit students to enter and to graduate at any time are endeavoring to have group meetings of students who are working on about the same work, so that the benefits of group discussion may not be wholly lost to them. At least some form of class instruction is in use in practically all the better high schools where students are entered at the same time and are usually kept reasonably close together. (See Chapter XI for a fuller discussion of this problem.)

Where the learning situation is most ideal, especially where the bookkeeping course has been preceded by a course in elementary training; where the teacher is, as he should be, well trained both in his subject matter and in the principles of education; or where the class or group method of instruction is used, it is probable that the best results in bookkeeping will be produced if some form of the balance sheet approach is used. However, while the approach is important, there are many other factors that must be considered.

In teaching bookkeeping we must recognize certain definite aims (see Chapter II on aims). We are presumably conscious of certain major objectives; supposedly we have some purpose in giving the course. To the

degree that any approach aids us in ultimately attaining our objectives, to that degree only should we consider any one approach important.

In some situations, the balance sheet method of approach may be the best method to use; in others, the journal or the ledger method may be the best. The approach, as such, should carry the bookkeeping work through the first cycle; from then on, this work should proceed in much the same manner regardless of which method of approach is used. True, the method used will probably have some bearing on the later lessons, but doubtless many other factors will have a much greater effect. The approach is admittedly important, but it should not be permitted to loom up as the overshadowing influence. As has been suggested, the approach used should be that method which best suits the situation.

Problems.

1. Outline very carefully a teaching situation in bookkeeping in which you believe the balance sheet approach can most effectively be used.

2. Outline in a similar way a situation in which the journal method of approach can in all probability best be used. Likewise, the ledger approach.

3. In view of the fact of numerous individual differences among the pupils of the usual class,

what other possible methods of approach may prove effective?

4. List all the advantages and all the disadvantages of each of the methods involved in problems 1, 2, and 3.

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Chapter X

EQUIPMENT OF BOOKKEEPING TEACHING

This chapter is devoted to a discussion of (1) the personal qualifications of the bookkeeping teacher; and (2) the equipment, including mechanical devices, necessary for his classroom work.

Teacher's Qualifications.

In writing a book of this nature, it is absolutely impossible to make suggestions that will fit all situations. In the preceding chapter (on approaches) it was pointed out that there are many bookkeeping teaching situations, in some of which one approach seems best, while in others another approach seems best. In the chapters on aims and subject matter, general outlines were offered with the suggestion that, in considering them, the reader should constantly keep in mind the needs of his own particular situation.

Obviously this same element enters into the discussion of the personal qualifications of bookkeeping teachers. Bookkeeping is

taught in high schools, private business schools, evening schools, junior colleges, collegiate schools of commerce, and other types of institutions.

The objectives of each of these schools are likely to be somewhat different from the objectives of the others. Bookkeeping teachers in high schools have, or should have, certain definite objectives in mind when they give their course; bookkeeping teachers in night schools will have other objectives; while bookkeeping teachers in collegiate schools of commerce will have still other objectives.

While some teachers may be versatile enough to teach effectively in any or all of these situations, the fact remains that the training that will best fit an individual for teaching bookkeeping in one type of institution will not necessarily *best* fit him for teaching in other types. The collegiate man will teach from a preparatory point of view, because most of his students are planning to go farther in the field of accounting; the night school teacher will teach from a very practical point of view, because most of his students (probably) are actually employed in bookkeeping positions or at least are definitely aiming in that direction; while the high school teacher, though teaching from a vocational point of view, will also have in mind a realization of some or all of the other major educational objectives. Naturally

these different points of view will condition the necessary qualifications of the teacher. While a number of elements should be common to the education and experience of teachers in all these schools, there are certain requirements that should be peculiar to each. All should know something of accounting, all should have had some business experience, and all should have had some professional training. However, the collegiate man should be very well versed in the theory of accounting; the night school man should be especially "long" on actual experience; and the day high school man should have a rather broad professional education.

Let us say, then, that this chapter carries largely the point of view of the secondary school, especially the senior high school. The qualifications of the high school bookkeeping teacher may be outlined as follows:

I. **General qualifications.**
   A. General education.
   B. General professional training.
   C. Personality.
II. **Special qualifications.**
   A. Technical training.
      1. General business.
      2. Special business.
   B. Special professional training.
   C. Experience.
      1. Business.
      2. Teaching.

General education. — The bookkeeping teacher should have a broad general knowledge of things that perhaps may be classified as items of common knowledge among the better educated group. This general knowledge will help him to see the value of various general subjects of study and to note their relative value and place in the curriculum.

General professional training.—It is not sufficient that the bookkeeping teacher have a professional training pertaining only to bookkeeping and to commercial education in general. In order that this training be of the most value, he must have had some training in the broader field of education; he should know something of educational psychology, educational sociology, the principles of education—particularly of secondary education and of the philosophy of education. Only through a knowledge of these broader professional fields can the bookkeeping teacher be best fitted to know just where his work fits into the whole scheme of education. He should also be acquainted with the field of tests and measurements and with the field of guidance.

Personality.—In addition to the ordinary requirements about personal appearance and physical equipment, the proper type of personality is vitally important in the bookkeeping teacher. He should possess those qualities of personality that will make him a

real leader in his classes; he must be approachable, coöperative, and sympathetic; he must be able to get his students to work with him; and he must not be of the nagging, sarcastic, belittling type.

Technical training.—The technical training of the bookkeeping teacher should comprise: (1) special business training; and (2) general business training. By special business training we mean training in the subjects that he actually handles. The bookkeeping teacher, then, should have a good knowledge of bookkeeping and accounting; he, of course, should know far more about this work than he ever expects to teach his students. He also should have a background of other business subjects—business English, economic geography, business economics, business law, business organization and management, and business mathematics.

Special professional training.—The bookkeeping teacher should have had a considerable amount of special professional training, and, of course, he should have had some training in the teaching of bookkeeping. In order that he be able to see commercial education as a whole rather than as several small, specific, and somewhat isolated units, the bookkeeping teacher should also know something of the principles of commercial

education and its place in the various schools.

Experience.—Business experience and teaching experience are both vitally important. The quality of the experience is far more important than the quantity. Every bookkeeping teacher should have had some actual business experience in bookkeeping. This experience should have touched upon all the principal phases of bookkeeping; that is, it should include working on journals, ledgers, trial balances, statements, etc. Experience is not highly beneficial when it involves only some small phase of bookkeeping work.

Part of the training of the bookkeeping teacher should also consist of practice teaching under competent supervision. Here again quality is more important than quantity. One semester of experience under proper supervision is frequently far better than two or three years of experience under little or no supervision.

Bookkeeping teacher training curriculum.—The following is a statement of minimum essentials in a bookkeeping teacher training curriculum:[1]

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[1] Adapted from a statement prepared by Paul S. Lomax and Herbert A. Tonne as a result of a study made by them pertaining to the work being done by teacher training institutions.

	Semester hours	
I. General requirements		
English (oral and written expression)	4	
English literature	4	
Science (preferably biology or general science)	4	
Social studies (in addition to economics in commercial group)	4	
Physical education	4	20
II. Educational requirements		
A. General		
Introduction to education	2	
History of education for business teachers	2	
Philosophy of education	2	
Educational psychology	4	
Educational sociology	2	
Principles of secondary education	2	
B. Special		
Principles of business education Part I. Foundations Part II. Curriculum making	4	
Character trait and duty analysis of business occupations	2	
Tests and measurements in business education	2	
Methods of teaching bookkeeping	4	
Observation and practice teaching	4	
Business experience	4	34
III. Commercial requirements		
A. General		
Introduction to business	2	
Business English	4	

Economic geography	4	
Business economics	4	
Business law	2	
Business statistics	2	
Business organization and management	4	22
B. Special		
Bookkeeping (if not taken in high school)	4	
Accounting	8	
Business mathematics	2	
Business law	2	
Restricted electives	4	20
IV. General education minor sequence (preferably in social studies)		12
V. Free electives		12
Total for bachelor's degree		120

The foregoing statement is meant to be an expression of only minimum essentials. All high school teachers should have at least a bachelor's degree—the tendency in educational circles is to expect that as a minimum. One state (California) even goes beyond this and requires that a teacher take one year of graduate work. If the teacher is to be the well rounded individual that he should be, he doubtless will want to take more work than that which is set forth in this statement. However, if all bookkeeping teachers had the training outlined above, the profession would be the better for it.

Equipment of the Classroom.

Equipment is of great importance in bookkeeping teaching. To be sure, it is not the only consideration; we must have aims, we must know what to teach, and we must know how to teach. Yet, as the tools used by the tradesman make for better work, so also does the right kind of equipment used in bookkeeping teaching make for more effective learning. Following are some suggestions about this equipment.

Bookkeeping classroom.—The classroom used for bookkeeping teaching need not be much different from any other classroom. It should be reasonably large, so that it may be equipped with desks slightly larger than those used in the classroom for purely academic work; and it should be clean, well lighted, and properly ventilated and heated.

Desks.—The desk top should measure approximately 24″ by 30″ and should be *flat*. Years ago bookkeepers had to sit on high stools or stand up to work at high desks that were slanted. To-day most office work that is done by hand is done at flat top desks. There is no reason why students should be forced to write uphill at slanted top desks. These desks should be fixed to the floor and should be either adjustable or of various heights. Inkwells may be provided for one or two kinds of ink—whether one or

two depends on whether red ink is to be used in the classes. Aside from its esthetic value, red ink adds very little to the work and is being used in a less number of offices than formerly. Some teachers prefer desks fitted with drawers so that each student who uses the desk during the day may have a drawer in which to keep his papers and other paraphernalia that he does not take home. This arrangement has not proved very satisfactory in many schools where it has been tried. Students forget or lose their keys, or forget to lock the drawers, with the result that there are many complaints of papers, rulers, pens, and other things being taken. A better arrangement is to have a cabinet, as explained below, in which each student has a section for himself.

Chairs.—The chairs should be comfortable and should be either adjustable or of various heights. Where conditions permit, movable chairs may be used. They sometimes cause the classroom to be a bit noisy, but this difficulty can easily be overcome by placing rubbers on the bottom of the legs.

Cabinets.—The bookkeeping room may well be equipped with cabinets in which each student in each class has a tray. This tray should be similar to the desk tray used in business offices and should be removable so that the student may take it to his desk for the period. This provides a place for him to

keep papers and sets that he will not use in doing home work, and also rulers, pens, pencils, and blotters. This cabinet may be arranged in sections, so that a separate section, perhaps two, may be used by each class. The teacher may then place a student from each class in charge of the space used by his class. His duties will be to unlock and to lock the cabinet, to see that each tray is taken out by the student to whom it belongs, and also to see that each tray is returned to its proper place at the close of the period.

Teacher's furniture.—The teacher should be provided with a regular flat top desk with a set of drawers on both sides. It should be his aim to keep this desk absolutely clear of papers, except those that he is actually using in connection with the lesson or with the work he is doing. Any type of chair will do, preferably a modern swivel chair. One or two extra chairs should also be provided for the use of visitors or for conference use.

A large table should be provided, on which may be kept reference books and portable mechanical devices. This table should not be used as a dumping place for "saved" material. If such must be kept, the teacher should keep it in a closet or a drawer where it will not be an eyesore and detract from the neat appearance of the room. The better plan is to check it, record the grades, and file it.

A filing cabinet should also be part of the equipment of the room. The teacher may keep in this cabinet corrected tests, papers, lesson plans, mimeographed exercises, and other materials that should be accessible.

A cabinet or a supply closet, in which the teacher may keep books that are not in use, extra sets, paper, pencils, rulers, and other supplies is, of course, necessary.

Blackboards.—Comparatively little value accrues from having students use blackboards. It is better for them to practice while learning their bookkeeping as nearly as possible in the way in which they are going to use it. The teacher, on the other hand, should use the blackboard extensively to illustrate and to explain the lesson being presented. The room should be equipped with a fair amount of plain blackboard space. In addition to this, some of the board space might be permanently ruled up in regular ledger and journal form, so that the teacher does not have constantly to redraw these forms. A sliding sectional blackboard similar to those used in school laboratories is ideal for this purpose. This type of equipment is usually made up of three or four blackboard sections which slide up and down in front of or behind one another, operating much the same as does the ordinary window sash. The different sections may be temporarily or permanently ruled up in various forms used in

the class, thus saving the teacher's time when he wants to illustrate various types of book and form work.

Supplies.—Each student should be supplied with a textbook; and also with a ruler (brass edge), a penholder, a pen with a reasonably fine point, a pencil, and a blotter. Whether the school will supply all these things or whether they will be supplied by the student is dependent on the practice of the school. The student should be expected to have them in class at all times. If the tray cabinet system, suggested above, is used, the most of the students will be likely to have them. While some plain paper may be used, regularly ruled journal and ledger paper should be used for most exercises. It is poor economy to have the student spend much time ruling paper for bookkeeping purposes. Sets should be given out when the work of the class has progressed to the point where the students are ready to work out the sets.

Fountain pens are now in such common use that the bookkeeping room may well be equipped with a fountain pen inkwell. It should also be equipped with a pencil sharpener, a yardstick, a pointer, and, of course, with chalk and blackboard erasers.

Classes of Office Machines Now in Use.

Account Registers.
Adding Machines (single counter).

Adding Machines (nonlisting, pocket type).
Adding Machines (single counter and direct subtracting).
Adding Machines (duplex and multiple counter, nondirect subtracting).
Adding Machines (duplex and multiple counter, direct subtracting).
Addressing Machines.
Autographic Registers.
Billing Machines.
Bookkeeping Machines.
Tabulating-Accounting-Analysis Machines.
Calculating Machines.
Calculating Machines (precomputed calculators).
Cash Registers (standard).
Cash Registers (adding machine-cash drawer combinations).
Cash Registers (autographic registers with cash drawers).
Check Certifiers.
Check Protection.
Check Writers.
Coin Changing Machines.
Coin Counters, Sorters, and Wrappers.
Counting Machines.
Copying Machines.
Copyholders.
Photocopying Apparatus.
Blue Printing Equipment.
Dictating Machines.
Duplicating Machines (type duplicators and printers).
Duplicating Machines (stencil).
Duplicating Machines (gelatin).
Duplicating Machines (offset).

Envelope Openers.
Envelope Sealers.
Finding and Filing Devices.
Folding Machines.
Indorsing Machines.
Message Recording Systems.
Label Pasting Machines.
Measuring Machines.
Numbering, Dating, and Marking Machines.
Paper Cutters.
Paper Feeders and Joggers.
Package Tying Machines.
Paging and Calling Systems.
Punching and Perforating Equipment.
Permit Mailing Machines.
Private Telephone Systems.
Mail and Parcel Post Scales.
Signature Signing Devices.
Stencil Cutting Machines.
Stamp Affixers.
Stenographic Machines.
Stitching Machines, Eyeleteers, and Paper Fasteners.
Sealing Machines (tape).
Sealing Machines (wax).
Telautograph Systems.
Telephone Auxiliaries.
Time Recording Devices.
Time Stamps.
Employees' Time Recorders.
Job Time Recorders.
Elapsed Time Recorders.
Program Devices.
Watchman Supervisory Systems.
Typewriters (portable).

Typewriters (standard).
Typewriters (motorized).
Typewriter Auxiliaries.
Visible Record Equipment.

Mechanical devices.—There are at present in use in the business offices of the country approximately seventy different kinds of office machines, comprising about six hundred different makes, as shown on pages 198–201.[2] There is a feeling among many business men and commercial educators that the schools have not kept pace with business in this respect. They feel that the schools should give the students an opportunity to become acquainted with the operation and the application of some of the more widely used of these devices.

A study is now being made to ascertain which of these machines should be used in schools for instructional purposes and which might better be learned on the job.[3] A preliminary report indicates that these office machines may be divided into four groups. The

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[2] For further information pertaining to these machines, items of equipment, and devices the reader is referred to *The Business Machines and Equipment Digest.* Equipment Research Corporation, Chicago, 1927.

[3] An investigation of office appliances for instructional purposes in schools is now being made by Peter L. Agnew. When completed this study will be available to commercial teachers. The information offered in this chapter is based on a preliminary report that has been made.

first group consists of machines that may be operated most efficiently only after the operator has had a certain amount of training which may well be received in school. The typewriter, bookkeeping and billing machines, and key-stroke calculators are in this group. The second group consists of machines which, while they do not require an operator with extensive training, are used enough in business offices to warrant the schools having such equipment in order that the students may have an opportunity to become familiar with their use while still in school and before they actually enter office work. Adding machines and some types of calculators (Monroe and Dalton) [4] fall in this group, along with other machines, such as some of the duplicators. The third group consists of machines that are either so extremely simple to operate or are not sufficiently widely used to warrant the schools actually buying such equipment. A knowledge of some of this equipment, however, may be valuable to the student. Such equipment as mail and parcel post scales and numbering, dating, and marking machines fall in this class. The fourth group consists of machines that, for one reason or another, seem to have no place in the school. Quite a number of machines come in

[4] For names and addresses of manufacturers of office appliances specifically named in this chapter see list at end of chapter.

this class, among them being check certifiers, coin changing machines, photo-copying apparatus, blue printing equipment, and message recording systems.

While some of these machines might be taught in a special clerical training curriculum, in which students are trained in the use of a number of them or are permitted to specialize in the operation of one particular type of machine, some of them should be used in conjunction with the regular bookkeeping training.

There is no place in elementary bookkeeping for mechanical devices. It is good practice for the student to do the comparatively simple arithmetic required in bookkeeping work without the aid of calculating or adding machines.

In advanced bookkeeping and accounting courses, a listing machine and a calculator should be furnished. By being permitted to use these devices, the student becomes familiar with the operation of the machines and also saves considerable time. Probably the best machines to use for this purpose are the Burroughs portable listing machine with a direct subtracter, and the Monroe calculator. As neither of these machines is difficult to operate, any normal student can learn to use them in a comparatively short time. They are time savers and they also help to give the bookkeeping work a business

aspect. The student feels more at home when he goes into business if he has had an opportunity to become acquainted with some of the more widely used business machines.

We mention these two makes because the study, as far as it had gone when the preliminary report was made, seemed to show that these machines were the most widely used machines in their special classes. The Burroughs adding machine (not necessarily the portable) was the adding machine that was used by the largest number of business firms reporting their equipment. We name the portable because it is inexpensive; because it has all the features of the heavier machine; and because it may easily be carried to the students' desks.

The Monroe calculator was the most widely used of the calculators other than the keystroke machines (the Burroughs Calculator and the Comptometer). If a separate course were being given in the training of calculating machine operators, we should probably recommend either the Burroughs Calculator or the Comptometer. In bookkeeping work, where each student will use the machine only occasionally, a machine that is simple of operation should be selected.

With the increased use of bookkeeping and billing machines in business, it is doubtful if a school course in bookkeeping should be considered complete until the student has had

some training on the bookkeeping machine. In some offices practically all bookkeeping is done by machine; in many others some part of the work, such as billing and sales records, voucher and voucher register work, and statement work is done on machines. It seems increasingly imperative that schools recognize this condition and that they, at least in the senior year, give the students an opportunity to learn to operate one of these machines. There are four widely used machines on the market: the Burroughs Moon-Hopkins, the Underwood, the Elliott-Fisher, and the Remington. These are all combination writing and calculating machines, and, therefore, may be used for practically any phase of bookkeeping work. The study referred to seemed to indicate that the Burroughs Moon-Hopkins and the Underwood were the two most widely used. We recommend that the operation of bookkeeping machines be taught in conjunction with the bookkeeping curriculum.

Library for the students.—The bookkeeping room should be equipped with several books on bookkeeping and accounting other than the text in regular use. In high school work, where the students are kept together, those who inevitably get through quickly and are looking for more work may enrich their knowledge of the subject by being assigned special exercises from other textbooks. This

gives them the opportunity to become acquainted with the point of view of other authors and frequently with new terms and methods of procedure that are slightly different from those already learned. This plan is usually much more satisfactory than to permit students to work through the required material of the course as fast as they are able to do so.

In private schools, where individual progression is advocated, the same amount of supplementary material is not always used. However, there is no doubt that extra exercises pertaining to some phases of bookkeeping should be assigned. Seldom does any textbook contain enough practice material to drive home all points about bookkeeping. Of course these special exercises may be mimeographed; but frequently students seem to get a fuller value from them when they are permitted to use the text for which such exercises were written.

A list of some of the widely used texts on bookkeeping that are available at the present time is given here.

Baker and Prickett, "20th Century Bookkeeping and Accounting" (16th ed.). Cincinnati, Ohio: South-Western Publishing Co., 1928.

Belding and Greene, "Rational Bookkeeping and Accounting." New York: Gregg Publishing Co., 1927.

Bowman and Percy, "Principles of Bookkeeping and Business." New York: American Book Co., 1926.

Elwell and Toner, "Bookkeeping and Accounting." New York: Ginn & Co., 1926.

Finney, H. A., "Accounting and Bookkeeping Methods." New York: Henry Holt & Co., 1924.

Jackson, Sanders, and Sproul, "Bookkeeping and Business Knowledge." New York: Ginn & Co., 1926.

Kirk and Street, "Bookkeeping for Modern Business." Philadelphia: J. C. Winston Co., 1920.

McKinsey, James O., "Bookkeeping and Accounting." (Revised) Cincinnati, Ohio: South-Western Publishing Co., 1926.

Rosenkampff and Wallace, "Bookkeeping Principles and Practice" (rev. ed.). New York: Prentice-Hall, Inc., 1929.

If a course in accounting is offered in the twelfth or senior year, this group of books should be further augmented by several of the widely used books on accounting and closely related subjects.

Library for the teacher.—A complete list of the books that should be contained in the library available to the bookkeeping teacher would require too much space. Let us say, then, that it should contain books, magazines, bulletins, etc., on educational psychology, educational sociology, philosophy

of education, principles of education, principles of secondary education, history of education, tests and measurements, vocational guidance, vocational education, character building, and classroom management and control.

In addition to this group of books on general subjects the library available to the teacher should contain several books on accounting and related subjects and also most of the best books, magazines, bulletins, and reports on commercial education. A list of such books follows:

Lyon, Leverett S., "Education for Business." Chicago: The University of Chicago Press, 1922.

Miller, Jay W. (et al.), "Methods in Commercial Teaching." Cincinnati, Ohio: South-Western Publishing Co., 1925.

Jones, C. T. (et al.), "Teaching Business Subjects in the Secondary School." New York: The Ronald Press, 1924.

Kahn, Joseph, and Klein, J. J., "Principles and Methods in Commercial Education." New York: The Macmillan Co., 1914.

Kitson, Harry D. (et al.), "Commercial Education in Secondary Schools." New York: Ginn & Co., 1929.

Lomax, Paul S., "Commercial Teaching Problems." New York: Prentice-Hall, Inc., 1928.

Lomax, Paul S., and Haynes, Benjamin R., "Problems of Teaching Elementary Business Training." New York: Prentice-Hall, Inc., 1929.

Eastern Commercial Teachers' Association, First Yearbook, 1928, "Foundations of Commercial Education." Also, Second Yearbook, 1929, "Curriculum Making in Business Education." New York: Published by the Association, 253 Lexington Avenue.

U. S. Bureau of Education Bulletins.

1918, No. 35, "Cardinal Principles of Secondary Education."
1919, No. 55, "Business Education in Secondary Schools."
1928, No. 4, "Commercial Education, 1924–1926."

State Syllabi, Reports, and Bulletins.

"New Jersey State Syllabus in Bookkeeping." State Department of Public Instruction, Trenton, N. J., 1928.
"New York State Syllabus—Commercial Subjects." University of the State of New York. Albany, New York, 1928.

City Syllabi, Reports, and Bulletins.

"Los Angeles High School Commercial Syllabus." Board of Education, Los Angeles, California, 1925.
"St. Louis Commercial Courses of Study." Board of Education, St. Louis, Mo., 1925.

University Bulletins.

Harvard University, Bulletin No. 12. "A New Conception of Office Practice," F. G. Nichols. Harvard University Press, 1926.

Periodicals.

The Journal of Business Education, 1170 Broadway, New York.

The Budget, H. M. Rowe Publishing Co., Baltimore, Md.

The Balance Sheet, South-Western Publishing Co., Cincinnati, Ohio.

Spotlights on Commercial Education, Ginn & Co., Boston.

Names of Important Adding, Calculating, Billing, and Bookkeeping Machines and their Manufacturers.

Burroughs Adding Machine Co., Detroit, Michigan:
- Adding machine.
- Calculating machine.
- Bookkeeping machine.
- Moon-Hopkins billing and bookkeeping machine.

Felt & Tarrant Manufacturing Co., 299 Broadway, New York City:
- Comptometer.

General Office Equipment Corporation, 342 Madison Avenue, New York City:
- Elliott-Fisher billing and bookkeeping machine.
- Sundstrand adding and calculating machine.
- Underwood billing and bookkeeping machine.

Monroe Calculating Machine Co., Orange, N. J.:
- Calculating machine.

Remington Rand Business Service, Inc., Buffalo, N. Y.:
- Dalton adding and calculating machine.
- Remington billing and bookkeeping machine.

Problems.

1. Suggest a complete layout of equipment for the bookkeeping room, or rooms, in your school. Clearly describe the situation.

2. Make a list of what you believe to be the essential qualifications of a bookkeeping teacher who will probably best fit into some teaching situation with which you are familiar. Clearly describe the situation.

3. What do you consider the important traits in the personality of a bookkeeping teacher?

4. Suggest a plan by which you would make use of some of the supplementary material suggested in this chapter under the heading, "Library for the Students," p. 205.

References.

1. Blackstone, E. G., "Do you Teach Typewriting with Wooden Typewriters?" (a general treatment of the equipment of a commercial department). *The Journal of Business Education,* vol. 2 (September, 1929), pp. 15–18.
2. "Business Machines and Equipment Digest." Equipment-Research Corporation. Chicago, 1927.
3. Charters, W. W., "The Teaching of Ideals," Chapter XVIII, *Teachers' Qualifications and Program.* New York: The Macmillan Co., 1927.
4. Haynes, Benjamin R., and Loso, Foster W., "Planning the Commercial Suite." *The Journal of Business Education,* vol. 2 (August, 1929), pp. 31, 32.
5. MacDonald, John H., "Office Management." New York: Prentice-Hall, Inc., 1927.

6. Nichols, Frederick G., "A New Conception of Office Practice," pp. 34–42. Harvard Bulletin in Education No. XII. Cambridge, Mass.: Harvard University Press, 1927.
7. Selby, P. O., "A Score Card for Commerce Departments." *The Balance Sheet,* vol. 8 (December, 1926).
8. Strayer, G. D., and Engelhardt, N. L., "The Classroom Teacher," Chapter XIV. New York: American Book Co., 1920.

Chapter XI

CLASSROOM MANAGEMENT OF BOOKKEEPING TEACHING

The problems of classroom management are very likely to be much the same regardless of the subject taught. In this chapter we are pointing out some of the elements that are generally considered under the caption "classroom management" and are endeavoring to suggest some specific application of these elements to the management of a bookkeeping classroom. The elements are listed below:

Organization as a whole.
Course of study.
Organization of daily work.
Plans for the first few lessons.
Class versus individual instruction.
Study and assignments.
Correcting papers.
Papers and sets returned.
Original work in bookkeeping blanks.
Student control.
Discipline.
Special devices for stimulating interest.

In considering the problem of management we must constantly keep in mind the basic objectives of education.[1] The bookkeeping teacher, as well as any other teacher, should have a clear conception of the objectives and the functions of education as a whole, and of the specific aims and the functions of bookkeeping. He should also be acquainted with such general educational subjects as educational psychology, educational sociology, and the philosophy of education. Only through having an intimate knowledge of these basic studies can he have that broad vision which will enable him to manage his classroom work in a way that will result not only in effective bookkeeping learning but also in helping the whole school system to attain health, citizenship, worthy home membership, and other prime objectives of education.

A complete discussion of these general principles, however, is not within the scope of this book. (Note reference numbers at the end of this chapter.) Let us say briefly that we consider bookkeeping as one phase of a whole system of education; a system that is endeavoring to improve a group of vastly different individuals to the end that they become better members of society; a system that is trying to develop the indi-

[1] See Chapter II of this book.

viduality of the members of the group and at the same time to develop group or social consciousness among those members.

In a preceding chapter it was pointed out that bookkeeping was primarily a vocational subject. It was further suggested that command of fundamental processes and the training of ethical character were other principal objectives of bookkeeping teaching. In addition to these, however, the bookkeeping teacher should ever have in mind the remaining major objectives, and should, where possible, do what he can to help the whole school attain all its objectives. Through the medium of very carefully thought out classroom management the teacher can frequently inculcate habits that improve the student in accordance with these general objectives. For example, the teacher may have students responsible for taking care of the ventilation of the room (when the ventilation is not automatic) and thereby develop a knowledge of what is the most healthful condition of a room and what steps one must take to keep a room in that condition. He may also have students work together in groups on projects and through these projects develop in the students an ability to work with others in a spirit of coöperation.

The make-up of any classroom may be said to consist of (1) the pupils, (2) the teacher,

and (3) the place in which they do their work. All planning must take into consideration the needs of the pupils. In so doing the teacher must remember that he is dealing with a group of individuals who are different from one another in many respects—intelligence, physical condition, sex, race, social economic status, morals, and interests. No teacher can expect plans to function if, in making them, he has failed to take into consideration these many elements of difference.

In another chapter we have suggested what we feel is the ideal equipment for a bookkeeping classroom. It seems hardly necessary to point out at this time that it is realized that not every bookkeeping classroom will be so ideally equipped. The teacher must make his plans to use the equipment that he has at his disposal. If the desks are not just what seem best, if he does not have the mechanical equipment he would like, if he feels that the room is not ventilated as it should be, he may try to have conditions improved, to be sure; but his plans must fit his present equipment and not that which he wishes he had.

The qualifications necessary for a well-equipped bookkeeping teacher have also been outlined in a previous chapter. If a teacher's qualifications do not come up to this standard, he should at once set about

remedying this deficiency by taking university courses or their equivalent, until he is properly qualified to cope with any situation that may arise. It is no longer enough for the bookkeeping teacher to know bookkeeping and to be able to make a fairly good appearance. He must have a broad general knowledge of affairs, of life, and of education with all that it implies; he must have personality and all the many things that go to make him a well-rounded professional worker.

Organization as a whole.—In laying out his plans for managing his class, the bookkeeping teacher must be mindful of the fact that his class is simply one of a number which make up the whole school organization. His plans must conform to and fit the plans made for the larger organization of which his class is a part.

There are certain school regulations and policies to which usually he must conform. It is not assumed that every teacher approves of every regulation or policy that in any way affects his class, but so long as they are school regulations it is up to the teacher to comply with them.

There are also elements about the equipment and the course of study that, to a large degree, are fixed. The room may not be the most pleasant one, desks or other equipment may not be the most ideal, or the course of

study may not conform to the teacher's idea of a model course of study. But these things are generally fixed and cannot be changed. Consequently, the only thing to do is to plan to manage the class in such a way that the greatest value possible under these conditions will be derived from that management. As a general rule, a teacher can produce surprisingly good results, even when somewhat handicapped by environmental conditions, if he has carefully thought out his problem and has laid his plans accordingly.

Course of study.—The teacher of bookkeeping should be absolutely certain that he knows just what is in the course of study and just what his students are supposed to learn during the year. He should then block out the work by months and by weeks to be sure that it is evenly distributed over the year.

While the course of study usually suggests a general outline of bookkeeping knowledge to be acquired during the year, in planning his work, the teacher must exercise great care in order that the students may benefit to the utmost from the study. It is always essential that the course of study be so interpreted that the students will not only know how to make entries, to post, to take trial balances, and to perform numerous other types of bookkeeping work, but will

also fully appreciate the broader factors pertaining to the other objectives of education. For example, let us consider the teaching of returned sales. If the teacher simply chooses to follow the course of study as it is printed, he may feel that he has fulfilled his duty when the student knows that "sales returns and allowances" is debited and that the customer's account is credited. However, this particular phase of bookkeeping opens up an excellent opportunity for a discussion of why goods are returned, and, in turn, for a discussion of the ethics, justice, and respect for the rights of others shown by both parties.

Bookkeeping offers a big opportunity for such discussion and development, if the teacher will but think very carefully about the content and introduce such discussion whenever the opportunity presents itself.

Some teachers may argue that such discussion would overshadow the technical bookkeeping, and, consequently, that the students' knowledge of bookkeeping might be found wanting at the end of the year. If the discussion is properly guided, this should not be the case. It might also be pointed out that a discussion of this kind tends greatly to enliven the classroom work and to create much interest, with the result that the bookkeeping principles involved are usually learned much more readily.

Organization of daily work.—There are a number of factors to be considered in connection with the organization of daily work. As mentioned above, the work to be covered during the year should be divided into months and weeks. Then the weekly allotment should be divided into days and daily lesson plans prepared. These plans should state the aims of the lesson, including not only the aims of learning bookkeeping principles but also the more general elements that may be part of the direct and the indirect, or concomitant, learning resulting from the lesson. The plan should also include a method of motivating the lesson, of presenting it, of leading the discussion after the presentation, and, finally, of the proposed application. Notes of observations and changes made during the lesson should be recorded in the plan book so that, when plans are prepared for the next year, the experience of this year will be of some value and assistance.

The amount of time to be allotted to recitation and discussion and the amount to be allotted to practice is of considerable importance. There can be no set rule about this; some lessons require more oral work, while others require a greater amount of written practice. The thing to be remembered is that both are necessary, and that it is up to the teacher to keep a proper balance

between the oral work and the written application of bookkeeping principles.

Plans for the first few lessons.—Too frequently teachers have been known to let the planning of work wait until after school has begun, with the result that often not only is there comparatively little work done during the first weeks, but the students have been permitted to get into lazy habits because of not having much to do. True, there may be some extenuating reasons. The organization of the school may be such that no class work can be done effectively during the first few days, or there may be so many late entrants that any work done during the first few days will have to be done over later.

If, however, the teacher gives some real thought to this problem, realizing the advantages usually accruing from getting things started right, he will usually find that he has little trouble in overcoming many of the difficulties and will be more than repaid by the orderly fashion in which the work will start and progress. (See "Lesson Plan Outline," p. 253.)

Class versus individual instruction.—There probably is no subject in the high school curriculum with which the problem of class versus individual instruction has been more intimately associated. It involves the question of economy and the matter of sound educational principles.

There are arguments on both sides of the question.[2] The one who favors class instruction will claim that the student learns how to coöperate with his fellow workers; that he learns something of the relative ability of others and compares it with his own; that class or group instruction forces him into competition with others in ideas, resourcefulness, justice, fair play, and knowledge of bookkeeping principles; that group instruction tends to make the student more cosmopolitan, to aid him in learning how to get on with others; and, finally, that most of these things cannot be effectively accomplished by individual instruction.

On the other hand, those who favor individual instruction claim that, in practice, we should recognize that students are different, and, therefore, that we should teach them as individuals rather than as a group; that the individual plan permits students to advance rapidly—or slowly—according to their capability; that the group plan causes the progress of the very capable student to be retarded, by waiting for his slower brother, while the slower student is constantly under strain trying to keep up with the more capable fellow.

Other arguments, pro and con, may be sug-

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[2] Sears, J. B., "Classroom Management and Control," p. 141.

gested. The main point seems to be that the problem of individual difference is a very vital one and that, too frequently, this element is lost sight of in group teaching. On the other hand, progress too often simply means learning bookkeeping principles and practices; we frequently forget the broad values of our other objectives, which accrue to the student from group work and discussion.

In order that the bookkeeping student may be the well-rounded individual that he should be; and in order that, at the conclusion of his bookkeeping course, he may have acquired not only a technical knowledge of bookkeeping, but also the ability to work with others, some knowledge of his own rights and privileges with reference to those of his fellow man, and something of the ideals of justice and fair play, it is most advisable that at least a part of the time be devoted to group discussion.

The best plan for handling this situation seems to be to lay out a certain minimum amount of work that can reasonably be completed by all the members of the class; then, instead of letting the more capable students run through this rapidly and the slow students take the whole year to do it, keep them all together, so that they may benefit from class discussion, but provide a considerable amount of enriching supplementary material

for the faster students. This plan will usually work to the advantage of all.

Individual instruction is necessary. The teacher will constantly note that, during practice periods, some students will have to be taught individually how to do certain special things which the students discussed in class and which most of them "got." Individual instruction cannot, and should not, be discarded. However, the benefits derived from class or group instruction are so great that we cannot afford to leave this type of instruction out of our plans. Once more, it is a question of keeping a proper balance between the two and thus gaining the major and mutual benefits of both.

Study and assignments.—While there is some difference of opinion as to whether any home work should be assigned, probably the majority of teachers feel that, when properly handled, such home work proves beneficial to the student.

In planning assignments, the teacher must have a definite policy of never assigning work that has not been discussed by the class. No teacher should ever assign a lesson to be prepared out of class time that involves elements which have not been taught to, and learned by, the class. Home work should be looked upon as a completion of to-day's, rather than as a preparation for to-morrow's, lesson. In class, we develop a new principle,

a new journal, a new way of handling ledger accounts. After a reasonable amount of class discussion, we ask the group to work out some exercises in class. After this has been done, we make a home assignment of other exercises, or another exercise, or even the completion of this particular exercise, which involves the newly learned principle or thing.

In connection with home preparation, the teacher should help the student to learn how to study. He should help him to realize his aims and motives for doing the work, his need of a plan for home work preparation, his need of knowing what materials to use in order to complete the lesson satisfactorily, and his need of developing proper habits of study.

Correcting papers.—Should the teacher carefully grade and return every paper? To do this effectively is virtually impossible. The teacher's time is too valuable for him to spend a large amount of it in this type of work. Some papers should be carefully inspected by the teacher; but a large number of the exercises prepared by the students may be inspected and checked with the help of the students. In some cases, the teacher may choose to have students exchange papers; in others, he may have them correct their own papers; in still others, he may have one or two students who work more rapidly than the rest inspect the papers of the group.

Grades based on the technical accuracy of home work should never be given. Students should be given credit for acceptably prepared home work and likewise should be penalized for not preparing it. The student should understand that home work is merely practice, through the medium of which it is hoped that he will become more capable of performing the work. The teacher who carefully corrects and grades home work papers is simply encouraging copying. If the student is not quite sure about things and knows that his grade is likely to be low, often he will copy the paper of a student who does know. The copying evil is likely to be present anyway, and, when detected, should be intelligently dealt with; but there is certainly no need for the teacher to issue a general invitation to the students to participate in this type of indoor sport. Some teachers argue that home work is next to useless, and, therefore, should not be assigned. They claim that much of it is copied anyway, and also that much more of it is incorrectly prepared and only represents wrong practice, which is worse than no practice at all.

If the teacher is careful to see that the students clearly understand how to do the work assigned and to impress upon them the value of practice and self thought, the home work very likely will prove beneficial. It is largely a case of the teacher using discre-

tion in making the assignment and of the student developing a right attitude toward its preparation.

Papers and sets returned.—Papers and sets should, of course, be checked up, as suggested above, and the students should be shown their errors. After all papers and sets are properly corrected, they should be filed away until the end of the year, at which time they should be destroyed instead of being returned to the students. It is not advisable for the teacher to throw the papers and sets away as soon as they are accepted. Students soon "get on" to this practice and frequently feel that there is little need for expending a great deal of time and effort on a piece of work only to have the teacher accept it and immediately introduce it to the waste paper basket. If these papers are kept on file, they also serve as a very fine supplement to the regular class record and often can be used to check on the accuracy of that record, particularly if its accuracy be questioned.

When exercises and sets are returned, they frequently find their way into the hands of students in subsequent classes of the same subject. These papers and sets can be of little or no value to the student, and the possibility of their becoming potential copying material can easily be obviated by having them destroyed.

Original work in bookkeeping blanks.—Teachers should expect students to make immediate use of blanks in working out sets rather than permitting them to work out the entries on loose paper and then copy them into the books. Such a procedure makes for an artificial situation; it permits, even encourages, carelessness on the first preparation of the work; it is likely to promote the copying evil; it makes the contents of the blanks nothing but a penmanship exercise; and the final effort does not reflect the student's practical ability in bookkeeping work.

Student control.—It has been pointed out before that an agreeable personality should be one of the prime qualifications of the teacher. There is no other phase of his work in which this comprehensive something that we call "personality" is more important than in his control of his students. Tact, diplomacy, factors of human understanding, sincerity, frankness, sympathy, aggressiveness, even the personal appearance of the teacher, all have much to do with the control he has over his students—perhaps more than all other contributing factors combined.

To be sure, we have rules, regulations, and plans to cover attendance, discipline, distribution, and collection of materials and supplies, and the general condition of the room. The success and effectiveness of these rules, regulations, and plans, in actually

controlling the students and in attaining the broader objectives of education, will depend to a very large degree upon the manner in which the teacher brings his personality into play.

The teacher should not consider himself "the boss," but rather the leader, of the group, and he should establish that feeling among the students. He should have them feel that his whole purpose in life is not to issue orders to them, but rather to assist them in reaching the goal which they, as young people, should be striving to reach.

Discipline.—At the outset, the students should understand what is expected of them. There will be some regulations, such as passing between classes and promptness in reaching the class in question, that are probably fixed and of which the students may need to be reminded. Other matters of discipline, such as talking in class, speaking out without being called upon, and leaving the room during class will have to be planned for and handled by the teacher himself.

The bookkeeping room need not be absolutely quiet at all times, but rather should conform, in so far as is practicable, to business conditions. During class discussions the students should be expected to be gentlemanly and ladylike, following and entering into the discussion just as they would a discussion that was being held in any business

or social meeting. When they are engaged in practice work, the room should have the atmosphere of a business office rather than the "pin fall" quietness of an old type school.

The effectiveness with which the teacher's planned procedures succeed in controlling the students will, as has been suggested, depend largely upon his own personality. Regardless of this, however, there will frequently be a student who will want to try out the teacher and his regulations, who will want to find out just what will happen if the student strolls in late, if he carries on a social chat with the boy in the next seat, or if he does something else which he is not supposed to do. There will be others in the class who, through carelessness or thoughtlessness, will do the same things. The teacher must not give the impression that he is spending most of his time looking for trouble; but, on the other hand, he should note these infractions at all times and take immediate steps to prevent their recurrence. Usually a good natured reminder will have the desired effect; but sometimes a sharp rebuke will be necessary, and, in some cases, even more stringent measures may have to be taken. If the teacher starts the very first day exerting this proper type of leadership and insisting upon the most acceptable conduct, the students will soon establish the right kind of

habits and the teacher will have little difficulty.

Here, again, the question of individual differences enters into the problem. Some students will always carry themselves as they are expected to; some will mean to do this but will become careless; while others will try to get away with anything that they think they can get away with. The teacher must study his students, become acquainted with their peculiarities, and understand just how to handle each one of them.

Special devices for stimulating interest.— The most widely recognized and the most admirable method of stimulating interest in bookkeeping is to teach and to discuss bookkeeping in terms of the child's everyday experiences and environment. There are other devices, however, some perhaps more or less artificial, that are used by teachers further to stimulate interest in their subject. Class marks, monitorship appointments, exhibition of work, prizes, certificates of proficiency, honor rolls, public commendation, and competition are a few of the methods used to stimulate interest in class work. Some teachers find some of these devices of much value in their teaching work; others discard most of them as useless. Nearly all appeal to some members of any class, while they in no way appeal to other members. For example, some students will

study hard to keep their grades above 80 or 90; or to get on the honor roll; or to be appointed monitor. Others will have no interest at all in such things; they do not care about marks so long as they pass; the honor roll in their opinion is very fine but only a "grind" gets on it; monitors, in their estimation, are only teacher's pets.

Because different devices appeal to different students, most teachers use several of such devices in order to reach, if possible, every student in the class. The effectiveness of these devices will depend, in large measure, upon the teacher's knowledge of how best to select and to apply them and upon his knowledge of his students.

Any special device should be used only after careful consideration has been given to the question of how well that device is likely to help the teacher to reach his ultimate goal. It must be remembered that these special devices are only means to an end and should not be so attractive that they overshadow the real end in view; they must make a direct appeal to the student's interest; they should be positive rather than negative; and they must not be injurious to other students.[3]

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[3] Sears, J. B., "Classroom Management and Control," p. 108.

Problems.

1. List all the incentives that you feel you can use in the management of a bookkeeping class.
2. Select four of the incentives and show how you would use them in handling a bookkeeping class.
3. Very carefully draw up a set of plans covering the first three days of school. (Check list of classroom management elements on p. 213.)
4. What relationship exists between student interest and student control? (See Dewey in list of references.)
5. What plan of class organization will best make possible both class and individual instruction in bookkeeping?

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Chapter XII

MEASUREMENT OF BOOKKEEPING TEACHING RESULTS

Kinds of Tests.

There are two general divisions of tests: (1) mental tests, and (2) educational tests. Mental tests are used to measure native ability of the student to learn; while educational, or achievement, tests are used to measure the *use* the student makes of his ability to learn.

This chapter deals with some of the problems pertaining to educational testing as applied to bookkeeping. Educational tests may also be divided into two groups: (1) the old type (sometimes called the essay type) of examination; and (2) the new type (sometimes called the objective type) of examination. Both these types are widely used by bookkeeping teachers and others who are interested in the results of bookkeeping teaching.

Uses of Educational Tests.

Educational tests are useful in various ways: (1) they aid in the administration and

supervision of instruction; (2) they help to find and diagnose difficulties; (3) they help in the grading, promoting, and sectioning of students and groups of students; (4) they assist in research; and (5) they motivate learning.[1]

Obviously, if the bookkeeping teacher is going to use tests for some or all of the above suggested purposes, he must have some way of knowing whether a test will be likely to do just what he wants it to do. The following are criteria by which the bookkeeping teacher may judge the general value of a test.[2]

1. Is the test *valid?* Does it really measure what it is supposed to measure? When a teacher constructs a bookkeeping test, presumably he plans to test or to measure the student's learning of a certain amount and kind of subject matter. Of the different things the student has learned, what things does the test actually measure and what things does it not measure? Do the things measured represent fulfillment of the aims of the course?

2. Is the test *reliable?* How well, or in what degree, does it measure the different knowledges, skills, ideals, and powers that

[1] Ruch and Stoddard, "Tests and Measurements in High School Instruction," p. 7.

[2] Adapted mostly from Ruch and Stoddard, "Tests and Measurements in High School Instruction," pp. 45–48.

it purports to measure? A bookkeeping test may measure many things, but these things may or may not be the things that it purports to measure.

3. Is the test *easy to administer?* Has a set of simple instructions been prepared so that it may be given with the least possible difficulty? Is it easily and definitely understood by the students?

4. Is the test *objective?* Does it ask questions that permit of only one correct answer? The need for personal judgment should be eliminated; each question should permit of but one correct solution.

5. Are the *test results easy to interpret?* What do the scores mean? Have reliable norms been prepared with which the scores may be compared? Has a reliable manual been prepared that gives the teacher definite directions for interpreting the educational significance of the test results? Are these prepared norms intelligently used? Do they apply to the group of students being tested?

6. Does the test have *diagnostic value?* Does it present an analysis into unit abilities of that part of bookkeeping learning that it is supposed to cover? Is this analysis comprehensive? The test must be such that the different types of errors may easily be tabulated in order that a program for remedial instruction may be planned. Sup-

pose, in a test, students are asked to record several entries in a general journal. Some will make errors in debiting and crediting; some will leave out explanations; some will leave out or misplace the date. If the teacher is to remedy these student difficulties it will be necessary for him to tabulate these errors and then to plan a program for remedying them. It might be noted that these tabulations must be thorough; many such tabulations are of little value, because they do not analyze the errors completely enough.

Limitations of Tests.

Tests have very distinct limitations. Bookkeeping teachers, as well as other teachers, should fully recognize this fact. Some of these limitations are:

1. Educational tests may not measure all outcomes of teaching, or, expressed in another way, all outcomes of student learning. Learning is made up of a certain combination of knowledges, habits, ideals, and powers. The tests are valid only for the learning outcomes that they really measure. They are not valid as a measurement of any other outcomes. A test may ascertain the student's knowledge of how correctly to record returned sales, but it may not test his knowledge of the ethical factors involved in returned sales.

2. Educational tests which deal with the measurement only of classroom teaching or learning results may not measure practical values of classroom learning. This has particularly to do with those rather intangible elements that we expect the students to acquire, but for which we have not as yet developed a reliable testing technique. We usually agree that an office worker should be honest, reliable, industrious, etc., and we may endeavor to inculcate the qualities in our students. If we do devise a test that presumably ascertains whether our student is, at the end of the course, more honest, or more reliable, or more industrious than he was when he entered, we still have tested him in terms of school life and experience and not in terms of practical business life and experience. A student may show marked improvement in the direction of these qualities in his school life and may at the same time show no improvement in these qualities as applied to his life outside the school.

3. Educational tests that measure classroom learning results only, at best usually measure a very small portion of the total learning results. It is important to determine whether the small portion is a truly representative sample of the total learning results.

4. In connection with educational tests that have standards of achievement, book-

keeping teachers must remember that there are enormous differences in human learning capacities, and, therefore, that no norm of performance can be set up which will have universal validity for individual students.

The New Type Tests.

During recent years there has come into the field of testing a new measurement device which is called the "new type" or "objective" test.[3] It is called an objective test because it was brought into existence largely in an effort to reduce the subjectivity of most testing. It is a well-known fact that teachers' judgments differ widely in the grading of papers. Several studies have been made in which exact copies of examinations have been submitted to large numbers of teachers for grading, and in every case the grades given by the teachers have varied from a poor failing grade to a high passing grade. Individual differences among teachers possibly account for this condition. To remedy this situation, it seems advisable to give tests, into the scoring of which teachers' judgments will not enter.

There are two main groups of these new type tests: (1) the recall tests, and (2) the recognition tests. The first group is known

[3] Ruch, G. M., "The Objective or New-Type Examination," Chapter VIII.

as recall tests, because the ability to answer the questions correctly depends upon the ability of the person being tested to remember certain elements. For example, a question of this type may be:

The journal is a book of .....
(Answer: Original entry.)

The second group is called recognition tests, because the student is required to recognize the correct answer. For example, a question of this type may be:

Cash is (1) a liability, (2) a cost item, (3) an asset.
(Answer: An asset.)

Each of the two main groups of tests, in turn, has several types which may be classified as follows:

1. Recall tests:
   a. Simple recall.
   b. Completion.
2. Recognition tests:
   a. Multiple response.
   b. True-false.
   c. Matching.
   d. Best answer.

This list does not include all types of new type examinations, but is representative of the most widely used types.

An example of each type of test as applied to the measurement of bookkeeping learning follows. It will be noted that each of these examples, along with the directions, is taken from one of the now available bookkeeping tests with the exception of the completion test.

1. Recall Tests.

a. Simple recall.—Directions. Fill in *one* word only in *each* blank space given at the end of each incomplete statement below, thereby making a complete and an accurate statement.

The bookkeeping term applied to all forms of money is .....

(Answer: Cash.)

(Taken from Carlson's Bookkeeping Test, No. 3, Series A, Section 6, Part 2.)

b. Completion.—Directions. An incomplete statement is given below. In each blank space write the word or the term which makes the statement complete and true in meaning.

The proprietorship of a business is the difference between the —— and the ——.

(Answer: assets; liabilities)

2. Recognition Tests.

a. Multiple response.—Directions. Underscore the proper italicized word or words

that apply to each of the following statements:

Assets convertible into cash within approximately six months are called *fixed assets, deferred charges, current assets.*

(Answer: Current assets.)

(Taken from Bowman's Bookkeeping Achievement Test No. 6, Part I.)

b. True-false.—This is a test on the theory of bookkeeping: terminology, definitions, and rules. If the statement is true, draw a line under "true." If the statement is false, draw a line under "false."

Bookkeeping is a systematic recording of the transactions of a business ..... true; false.

(Answer: True.)

(Taken from Carlson's Bookkeeping Test No. 1, Series A, Section 3.)

c. Matching.—Directions. From the list of accounts given here, select those which should be used to record the necessary adjusting and closing entries indicated below and write the numbers of the accounts in the debit and credit columns.

1. Freight and Cartage In.
2. Fuel (fuel used or fuel expense).
3. Fuel Inventory (fuel or sundry expense inventory).

4. Merchandise Inventory.
5. Merchandise Purchases.
6. Merchandise Sales.
7. Profit and Loss.
8. Proprietor, Drawing (personal).
9. Proprietor, Investment (capital).
10. Purchases Returns and Allowances.
11. Rent Expense.
12. Salaries.
13. Sales Returns and Allowances.

To close the Purchases Returns and Allowances account ..... Debit ( ) ..... Credit ( )
(Answer: Debit 10, Credit 5.)

(Taken from Elwell-Fowlkes Bookkeeping Test No. 1, Form A, Part VI.)

d. Best answer.—Directions. Read each definition or question and find the *best* answer in the list below. Write the *number* of that answer in the column provided.

1. Promissory Note.
2. Sight Draft.
3. Time Draft.
4. Trade Acceptance.
5. Blank Indorsement
6. Full Indorsement.
7. Qualified Indorsement.
8. Restrictive Indorsement.
9. Cash.
10. John Doe.
11. Notes Receivable.
12. Notes Payable.

Which instrument contains the following: "Ten days after date pay to the order of"? ——
(Answer: 3)

(Taken from Carlson's Bookkeeping Test No. 4, Series A, Section 3.)

Advantages of New Type Tests.

1. They are more objective and thus tend to eliminate personal opinion.
2. They make possible a more extensive sampling of the course in a given period of time than does the "written" examination.
3. They compel the student to be brief and definite.
4. They may be quickly and accurately graded.
5. They have been experimentally proved to be "more valid and reliable than the essay type of test per unit of actual working time."[4]

It might be noted that the advantages named for the new type test might be reversed and be the disadvantages of the old type test. Note that we offer as an advantage for the new type test the fact that they are more objective and thus tend to eliminate personal opinion. We might say that the old type test is more subjective and thus tends to permit the exercise of more personal opinion.

Disadvantages of New Type Tests.

1. They afford little chance, if any, to organize learning with reference to problem

[4] Ruch, G. M., and Stoddard, G. D., "Tests and Measurements in High School Instruction," p. 271.

solving situations. The new type tests examine more or less isolated details of learning rather than the organization and the functional use of these details. Learning must take the latter form before it tends to have living value in practical everyday experiences. This consideration alone would seem to warrant the continued use of the "written" examination.

2. They tend "to become highly factual and to place a premium on memory alone."[5]

3. They tend to encourage an emphasis on numerous minor details of the course instead of an emphasis on relatively few important and more inclusive phases.

As was noted in connection with the advantages given above, the disadvantages of the new type tests may also be reversed so that they really state the advantages of the old type of test. Note that the first named disadvantage states that the new type test affords little, if any, chance to organize learning with reference to problem solving situations. On the other hand, the old type test affords opportunity to organize learning with reference to problem solving situations.

Need for Using Both Types.

This statement of advantages and disadvantages seems to indicate that while the

[5] *Ibid.*, p. 271.

new type examination has some decided advantages, it also has some very serious limitations. It seems, then, if we are to carry through a well-rounded measuring program, it will be necessary to make use of both types of tests. There are many phases of bookkeeping learning that may be measured by a test that simply calls for definite answers which are either right or wrong. Such phases may well be tested by the use of the new type or objective test.

The study of bookkeeping involves problem solving and the ability to meet new situations. Usually this phase of bookkeeping learning can best be measured by the use of the old type test, where definite problems can be set and the student required to work out satisfactory solutions.

Available New Type Tests.

1. "Bookkeeping Achievement Tests," by C. E. Bowman.
   Six tests, based on Bowman and Percy's "Principles of Bookkeeping and Business" (Elementary Course). American Book Co., New York City. Tests designed to be given after completing certain chapters in the textbook.
2. "Elwell-Fowlkes Bookkeeping Test," by F. H. Elwell and J. G. Fowlkes. World Book Co., Yonkers-on-Hudson, New York. Two tests, each with two forms, not based on any specific textbook.

Tests designed to be given at the end of each semester.

3. "Bookkeeping Tests," by Paul A. Carlson. South-Western Publishing Co., Cincinnati, Ohio. Several series, based on "20th Century Bookkeeping" and also on "McKinsey's Bookkeeping."
   Tests designed to be given after certain chapters in these textbooks.
4. "Bookkeeping Tests," by Jackson, Sanders, and Sproul. Ginn & Co., Boston. Several series of tests, prepared primarily for use with the authors' book, "Bookkeeping and Business Knowledge." Tests designed to be given after completing certain chapters in the text.
5. "Bookkeeping Tests," by Elwell and Toner. Ginn & Co., Boston. Several series of tests, prepared primarily for use with the authors' book, "Bookkeeping and Accounting." Tests designed to be given after completing certain chapters in the text.

Need for Informal Tests.

Some of these tests have been standardized, others probably will be.

"The norms established for a standardized test imply the acceptance of certain educational objectives which are uniform for all teachers in the field covered by the test."[6] It happens that in bookkeeping, as in many other subjects, we do not have any widely ac-

[6] Monroe, Walter S., "Directing Learning in the High School," pp. 494, 495.

cepted standardized set of objectives and aims in terms of which standardized tests may be constructed. Consequently, while some of the available tests will be of value to some teachers, much of the measurement of bookkeeping teaching results will have to be done by the use of an informal or unstandardized test constructed by the bookkeeping teacher or supervisor to fit his own situation. Naturally, these informal tests, as far as possible, should square with the criteria of a good test.

Criteria for Preparing, Administering, and Evaluating Informal Tests.

1. For the particular part of the course that it is desired to test, itemize all things that the students were expected to learn in terms of (1) information, (2) habits, (3) ideals, and (4) powers.
2. Of the total things itemized, check the things which are to be measured by the informal test.
3. Check the things to be measured with the aims of the course to see how well the test will serve to measure actual realization of aims. This may lead to certain changes in the items to be measured.
4. Prepare the test.
5. Prepare the key for the test.
6. Prepare a grading schedule for the test.

7. Prepare a definite procedure or set of directions for administering the test from the point of view both of teacher and students.
8. Give the test.
9. Compile test results.
10. Interpret test results.

Problems.

1. Prepare an objective test for beginning bookkeeping designed to test the learning of the students during the first semester. Use some of each of the different types of recall and recognition tests and be certain that your test checks with the criteria for preparing, administering, and evaluating a test.

2. Evaluate the various available bookkeeping tests in terms of the criteria suggested in this chapter.

3. Plan a testing procedure for the first year, as given on pages 58–66, and indicate at each testing period whether you would use new type tests, old type tests, or a combination of the two.

4. What are the advantages and what the disadvantages of each of the new type tests with reference to the best measurment of bookkeeping learning?

5. "We do not have any widely accepted standardized set of objectives and aims in terms of which standardized tests may be constructed." What are some of the reasons for this situation in bookkeeping? What can be done to change this situation, or is it proper that it should continue to exist?

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APPENDIX

Lesson Plan Outline.[1]

I. Subject matter:

A. The teacher's aim:
General: General topic being studied.
Specific: Part involved in this lesson.

B. The student's aim:
General: General topic being studied.
Specific: Part involved in this lesson.

It is important to distinguish between the point of view of the teacher and the point of view of the student or learner. For instance, suppose the class is studying the general topic of filing. The specific aim or viewpoint of the teacher may be, "To teach the different methods of filing." The viewpoint of the student may be, "To learn how to file letters and be able to find them quickly." Thus the teacher is inclined to have a technical, *instructional* attitude toward the subject of filing, while the student is inclined to have an actual *business activity* attitude.

C. What is to be taught? (Give here a list, outline, or brief of the teaching material for the lesson.)

---

[1] Lomax, Paul S., and Haynes, Benjamin R., "Problems of Teaching Elementary Business Training," pp. 139–141. New York: Prentice-Hall, Inc., 1929.

1. Old knowledge: material already known to students and which will be used in introducing the aim or setting up the problem.
2. New knowledge: the material to be learned in to-day's lesson.

D. Sources and references. List those used by teacher in preparation and those to which students are to be referred. Note apparatus and materials that must be available for the lesson.

II. Methods:

Write out in some detail your procedure in teaching this lesson. Use the steps of the skill building procedure, or the reflective thinking procedure, or both, as the need may be. Include both questions you will ask and the answers you expect. Be sure to emphasize the student aim—why the lesson is important from his point of view. The teacher should tend to think of his problems of teaching in terms of the student's problems of learning. The main function of the teacher is to stimulate and to guide the student in his learning.

It is important to have an outline of the essential points of the lesson that will be presented. A time allowance for the various parts of the lesson should be prepared. It helps the learner oftentimes if the teacher sketches on the blackboard the plan of the lesson with its main points, and toward the close of the lesson writes a statement of summaries. It is important to have a class meeting

close with a summing up of the main points of the lesson that the teacher attempted to convey to the students. Furthermore, this "clincher" will help the student's memory at the next class meeting in recalling the old knowledge for the learning of the new knowledge. Finally, a definite statement of the new assignment should be given the class, preferably in the form of a mimeographed sheet. It, however, may be written on the blackboard.

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